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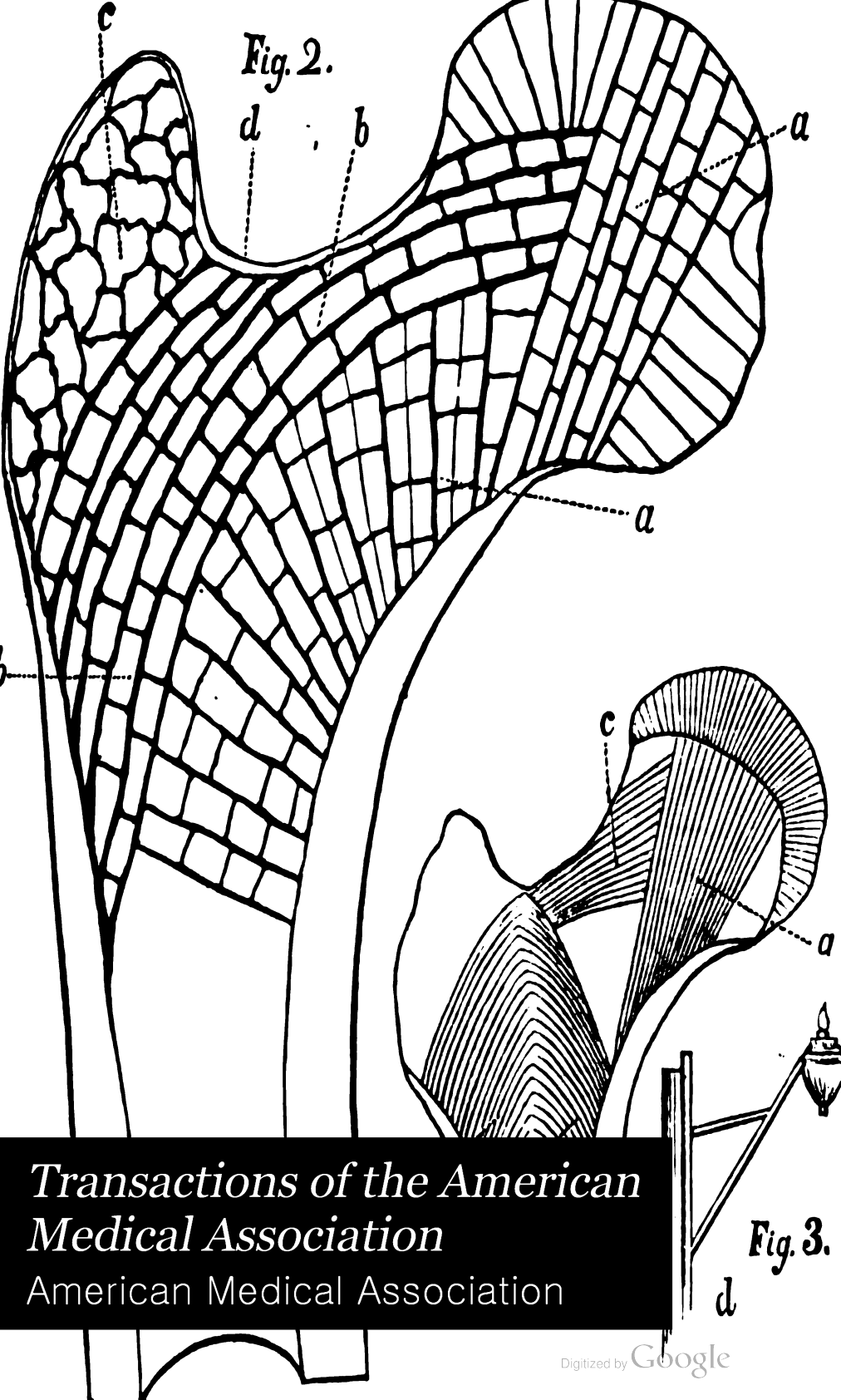

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THE

TRANSACTIONS

OF THE

AMERICAN

MEDICAL ASSOCIATION.

INSTITUTED 1847.

VOL. III.

PHILADELPHIA:
PRINTED FOR THE ASSOCIATION,
BY T. K. AND P. G. COLLINS.
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MINUTES

OF THE

THIRD ANNUAL MEETING

OF THE

AMERICAN MEDICAL ASSOCIATION,

HELD IN THE CITY OF CINCINNATI, MAY, 1850.

CINCINNATI, *May 7th*, 1850.

The Association met in "College Hall," at 10½ o'clock, A. M., the President, Dr. WARREN, in the chair.

Dr. STRADER, on behalf of the Committee of Arrangements, read a list of the delegates who had registered their names.

[The following list comprises the names of all the delegates and members reported at various stages of the proceedings. The names of those who were not present are marked thus †.]

MAINE.

Medical School of Maine,	Drs. †JOHN HUBBARD, †W. SWEETZER.

NEW HAMPSHIRE.

State Medical Society,	Drs. †JOHN S. FERNALD, †NOAH MARTIN, †C. B. HAMILTON, †G. W. GARLAND, †N. R. WOODBURY, †E. H. PARKER, †J. F. HALL, †W. P. STONE, †DIXI CROSBY, †E. R. PEASLEE, †N. WIGHT,

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N. H. Medical Institution,	Drs. †Dixi Crosby, †E. R. Peaslee.

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Castleton Med. College,	Drs. †M. Goldsmith, †W. Sweetzer.

MASSACHUSETTS.

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†Nehemiah Cutter,
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Southern District Med. Society,	Dr. Paul Spooner.
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Members by Invitation,	Drs.	J. A. Skinner, J. S. Irvine, C. C. Sams, John Dawson, J. D. Colton, Seth Hart, Jesse W. Cook, John White, Isaac Knapp.

MICHIGAN.

State Medical Society,	Drs.	Z. Pitcher, Charles S. Tripler, A. B. Palmer.
Oakland County Med. Society,	Drs.	†John Wilson, †Isaac Paddack, G. K. Johnson.
Medical Department of the University of Michigan,	Drs.	Zena Pitcher, †Samuel Denton, J. Adams Allen.

INDIANA.

State Medical Society,	Drs.	A. J. Mullen, Charles Parry, J. L. Mothershead.
Grant County Medical Society,	Drs.	William Lomax, James S. Shively.
Franklin Co. Medical Society,	Dr.	Rufus Haymond.

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Wayne County Medical Society,	Drs.	W. Dickey, N. Johnson, Joel Pennington.
13th Med. District Society,	Dr.	†John C. Beck.
Vincennes Medical Society,	Dr.	H. M. Smith.
New Albany Medical Society,	Drs.	S. E. Leonard, Asahel Clapp.
Indiana Medical Institute,	Drs.	W. H. Martin, H. G. Sexton, †W. Bracken.
Indianapolis Medical Society,	Dr.	H. V. V. Johnson.
Kosciusko Medical Society,	Dr.	J. K. Leedy.
Indiana Central Med. College,	Dr.	G. W. Mears.
N. W. Academy of Natural and Medical Sciences,	Dr.	†Azariah B. Shipman.
Ind. Hospital for the Insane,	Dr.	R. J. Patterson.
Members by Invitation,	Drs.	W. J. Stewart, J. H. Brown, Luther Jewett, B. F. Mullen.

ILLINOIS.

Adams County Medical Society,	Dr.	M. Shepherd.
Peoria Dist. Medical Society,	Drs.	W. R. Hamilton, E. Dickinson.
Chicago Medical Society,	Dr.	John Evans.
Æsculapian Society,	Dr.	Samuel Thompson.
Rush Medical College,	Drs.	Daniel Brainard, N. S. Davis.
Chicago Retreat for the Insane,	Dr.	Edward Mead.

MISSOURI.

State Medical Society,	Drs.	Thomas Reyburn, †Charles A. Pope, †George Engleman, †J. N. Hall, †J. C. Carpenter, †John Fane.
University of Missouri,	Dr.	John B. Johnson.

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University of St. Louis,	Drs.	THOMAS REYBURN, W. M. MCPHEETERS, †C. A. POPE.

IOWA.

Iowa University,	Dr.	†C. B. CHAPMAN, S. G. ARMOR.
Member by Invitation,	Dr.	JOHN WETHERWAX.

WISCONSIN.

State Medical Society,	Dr.	†C. B. CHAPMAN.
Member by Invitation,	Dr.	JOHN PARKER.

DISTRICT OF COLUMBIA.

Medical Staff of the Army,	Dr.	C. S. TRIPLER.
Medical Department of the Nat. Institute,	Drs.	†JAMES WYNNE, †JOHN M. THOMAS.

The President delivered an address.

On motion of Dr. WATSON, of N. Y., the Constitution was read.

The rules being suspended, Dr. WATSON moved that Drs. DRAKE, RIVES, LAWSON, DODGE, STRADER, and RICHARDS, members of the Committee of Arrangements appointed in 1849, but not belonging to the Association, be elected permanent members.

On motion of Dr. STILLÉ, the name of Dr. C. C. CALDWELL, of Louisville, was added to the number, and the whole elected by an unanimous vote.

An invitation was presented from the "Mercantile Library" offering to the Association the use of its reading-room, for which, and for similar invitations, the thanks of the Association were, on motion of Dr. PHELPS, directed to be tendered.

On motion of Dr. PHELPS, it was resolved that the afternoon session of the day commence at 4 P. M.

The names of delegates first recorded on the lists of the several States were then read on motion of Dr. WATSON, and these gentlemen requested to call their colleagues together for the purpose of constituting a nominating committee.

Adjourned.

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Afternoon Session.

The President in the chair.

The Committee of Arrangements reported the names of persons recommended by various delegates for membership by invitation.

Dr. WHITE, of N. Y., moved that the subject be referred to a special committee of five, who should report at the morning session the names of all who ought to be elected by the Association, which was agreed to, and the following committee appointed—Drs. WARE, Mass., JOHNSON, Mo., DOWLER, La., PARRISH, Pa., FLINT, N. Y.

The Committee of Arrangements presented an invitation to the Association from the Western Art Union to visit their rooms.

The names of delegates arrived since the morning report were read.

The Secretary read a letter addressed by the Secretary of the Smithsonian Institute to the President of the Association relative to registration of diseases, &c., throughout the United States, and offering, in behalf of the Smithsonian Institute, a room in its building as a place of meeting for the Association.

On motion of Dr. PHELPS, of N. Y., that portion of the letter having reference to the annual meeting was referred to the Nominating Committee.

On motion of Dr. KNIGHT, of Conn., that part bearing upon registration was referred to the Committee on Hygiene.

The Secretary asked and obtained leave to present the Report of the Publishing Committee and of the Treasurer. (See *Reports* H, and H—I.)

They were accepted and referred to the Committee on Publication, and the resolutions appended to the Report of the Committee on Publication were adopted.

On motion of Dr. MARTIN, of Indiana, the Committee of Arrangements were requested to procure another room for the meetings of the Association.

On motion of Dr. PARRISH, of Pa., the Report of the Committee on Medical Education was made the order of the day for the next morning.

The Secretary presented and read a part of the Report on Hygiene. (See *Report* I, I—1, and I—2.)

Dr. PHELPS, of N. Y., moved the reference of the Report to the Committee on Publication.

Dr. LAWSON, of Ohio, moved that it be laid upon the table for further consideration.

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The amendment was negatived, and Dr. PHELPS' motion was then adopted.

A communication from Dr. FENNER, of La., was received, accompanied by a portion of a work now in the course of publication relating to the Medical Topography, Meteorology, and Diseases of the South-West, and in respect to which the co-operation of the Association was requested.

The subject was laid upon the table in consequence of the entrance of the Nominating Committee, prepared to report the names of the officers of the Association.

The Committee was composed of the following persons:—

NATHAN SANBORN, N. H.,	PAUL F. EVE, Georgia,
EZEKIEL FOWLER, Rhode Island,	WILLIAM B. JOHNSON, Alabama,
WORTHINGTON HOOKER, Conn.,	BENNET DOWLER, Louisiana,
CALVIN JEWETT, Vermont,	N. L. THOMAS, Tennessee,
EDWARD REYNOLDS, Mass.,	C. J. BLACKBURN, Kentucky,
T. W. BLATCHFORD, New York,	G. W. BOERSTLER, Ohio,
ENOCH FITHIAN, New Jersey,	A. B. PALMER, Michigan,
CASPAR MORRIS, Pennsylvania,	H. G. SEXTON, Indiana,
JAMES COUPER, Delaware,	JOHN EVANS, Illinois,
S. P. SMITH, Maryland,	W. M. M'PHEETERS, Missouri,
G. LANE CORBIN, Va.,	S. G. ARMOR, Iowa,
WALTER A. NORWOOD, N. C.,	JOHN PARKER, Wisconsin.
HENRY R. FROST, S. Carolina,	

The Nominating Committee reported the following as officers of the Association:—

PRESIDENT,
REUBEN D. MUSSEY, *Ohio.*

VICE PRESIDENTS,

J. B. JOHNSON, *Missouri*,	DANIEL BRAINARD, *Illinois*,
A. LOPEZ, *Alabama*,	GEORGE W. NORRIS, *Penn.*

SECRETARIES,

ALFRED STILLÉ, *Pennsylvania*,	H. W. DESAUSSURE, *S. Carolina.*

TREASURER,
ISAAC HAYS, *Pennsylvania.*

The Report was accepted, and Dr. SMITH, of New Jersey, moved

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that the officers thus nominated be the officers of the Association for the ensuing year.

After some discussion by Drs. STORER, of Mass., YANDELL, of Ky., M'NALLY, of Ohio, WHITE and WATSON, of N. Y.,

Dr. HOLT, of Ky., moved the previous question, which was sustained, and

Dr. SMITH'S resolution was then adopted.

On motion of Dr. ROBERTS, of Md., the Association then adjourned until 9 A. M., May 8.

May 8th, Morning Session.

Dr. WARREN in the chair.

The minutes of the previous meeting were read and approved.

The Committee of Arrangements reported the names of delegates arrived since the previous Report.

The following resolutions, offered by Dr. BOWDITCH, of Mass., were then unanimously adopted:—

Resolved, That the American Medical Association has learned with deep regret of the death of Prof. HARRISON, their late Vice-President, and they hereby wish to express their high sense of the virtues, talents, and professional merit of their distinguished associate.

Resolved, That in dying, as he did, while engaged in ministering to the wants, and relieving the sufferings of his fellow-citizens, this Association recognize in him a noble example of professional self-sacrifice.

Resolved, That the warmest sympathies of this Association are hereby most respectfully tendered to the family of their honoured and deceased associate.

On motion of Dr. STILLÉ, it was *Resolved*, That a properly authenticated copy of the resolutions be transmitted to the family of Dr. HARRISON.

Dr. BLACKBURN, of Ky., moved that a Committee of three be appointed by the chair to introduce the newly elected officers, and to conduct the President elect to the chair.

The chair appointed Drs. KNIGHT, of Conn., CORBIN, of Va., and BLACKBURN, of Ky.

The President elect having been introduced by the Committee, was presented to the Association by the President. Dr. MUSSEY

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then returned his thanks to the Association for the honour conferred upon him.

On motion of Dr. CORBIN, of Va., the late President and Vice-Presidents were invited to take their seats on the platform.

The following resolution, introduced by Dr. KERFOOT, of Pa., was unanimously adopted: *Resolved*, That the thanks of the Association be tendered to the late officers for the very gentlemanly, courteous, and efficient manner of conducting the business of the Association.

Dr. STILLÉ moved a suspension of the rules for the purpose of hearing the Report of the Committee on "Members by Invitation," which was granted, and Dr. WARE, of Mass., Chairman of the Committee, made a Report, concluding with the following resolutions:—

Resolved, That all those gentlemen who have been nominated to the Association be admitted as members by invitation.

Resolved, That at the next meeting of the Association, a Committee shall be appointed, at an early period of the session, to whom shall be presented all nominations of members by invitation, who shall report such of them for admission as shall appear, according to a liberal interpretation of the Constitution, to have a claim to this privilege.

Dr. WHITE, of N. Y., moved the adoption of the resolutions, but on motion of Dr. RIVES, of Ohio, the resolutions were considered separately, and the first was adopted. The second, after much discussion, was, on motion of Dr. PALMER, of Mich., indefinitely postponed.

Dr. W. HOOKER, of Conn., offered the following resolution: *Resolved*, That the section of the Constitution relating to members by invitation be repealed; which lies over, according to rule, till the next meeting of the Association. Dr. EVANS, of Ky., also offered a resolution of the same purport.

The President announced the Report of the Committee on Education as the order of business of the day.

Dr. WATSON asked a suspension of the rules for the purpose of bringing before the Association the communication of Dr. FENNER, of N. O., which was not granted.

Dr. BLATCHFORD, of N. Y., presented the Report of the Committee on Education, which he requested might be read by the Secretary, as the Chairman of the Committee was absent. The Secretary read the Report. (See *Report* D.)

Dr. BLATCHFORD offered the following Preamble and Resolutions, prefacing them with the remarks that, although a member of the

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Committee, he had never seen the Report until late on the preceding evening, and that he dissented altogether from the opinions it expressed.

Whereas, This Association has learned through its several Committees, appointed from year to year, to examine into the state of Medical Education in our country, that many of the Medical Colleges invested by law with the power of granting degrees, still continue a system of instruction, which we cannot but regard as defective both in the time allotted to the delivery of lectures, in the attention paid to Practical Anatomy, in the facilities afforded for Clinical Instruction, and in the low standard of the requirements for a degree, therefore

Resolved, That this Association reiterates its former recommendations upon these points, and would urge upon the Medical Colleges to continue their efforts to elevate the standard of Medical Education by adopting such changes in their courses of instruction as shall satisfy the just and reasonable desires of the Profession.

Resolved, That the thanks of the American Medical Association are due to the Faculties of the *University of Pennsylvania*, and of the *College of Physicians and Surgeons of New York*, and all other institutions which may have conformed to our recommendations, for their prompt response to the recommendations of the Association for the improvement of Medical Education.

Dr. ROBERTS, of Md., also a member of the Committee, stated that he had never seen the Report until the preceding evening, and did not entirely approve of it.

Dr. STILLÉ wished to correct a statement made in the Report, "that none of the Colleges of Pharmacy in the Atlantic cities seem to be in active operation." He called attention to the fact that the Colleges of Pharmacy of New York and Philadelphia were in active operation, and had shown their activity, amongst other ways, by taking an efficient part in procuring the passage of a law to prevent the importation of spurious and adulterated drugs.

Dr. ISAAC WOOD, of N. Y., also desired to say, that the College of Pharmacy of N. Y. was in active and efficient operation.

Dr. PARRISH, of Pa., expressed himself at length in opposition to the doctrines of the Report, but moved that it should take the usual course, and be referred to the Committee on Publication. Dr. ANNAN, of Ky., moved to amend by referring the Report and the Resolutions of Dr. BLATCHFORD to a select committee, of which Dr. PARRISH should be chairman.

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After much discussion and the offering and withdrawal of several resolutions,

Dr. STILLÉ offered the following Resolutions as an amendment, which were adopted.

Resolved, That the Report of the Chairman of the Committee on Medical Education be recommitted for correction, as to matters of fact, and then handed to the Committee on Publication.

Resolved, That the Resolutions of Dr. BLATCHFORD be made the special order for the meeting of this afternoon.

On motion of Dr. KNIGHT, of Conn., it was *Resolved*, That the Committee appointed to nominate the officers of the Association be continued, and that they be directed to nominate the several Standing Committees of the Association for the ensuing year, and also to designate a place for the next meeting of the Association.

Dr. REYBURN, of Mo., in behalf of the Medical Society of the State of Missouri, tendered an invitation from said Society to the Association to meet in St. Louis after the next annual meeting.

The Chairman of the Committee of Arrangements informed the Association, that they were unable to obtain the permanent use of the only other hall suitable for its meetings. On motion of Dr. ROBERTS, of Md., the Association determined to continue its meetings in the present hall.

The Association then adjourned to 3½ o'clock, P. M.

Afternoon Session.

Dr. JOHNSON, Vice-President, in the chair.

The discussion of Dr. BLATCHFORD'S resolutions was resumed, and Dr. MILLER, of Ky., moved to amend the first by inserting after the word "efforts," "and the lay members of the profession who take office pupils to begin their efforts," which was accepted by Dr. BLATCHFORD. Before coming to a vote the Association adjourned to 9 A. M., of Thursday.

May 9th, Morning Session.

Dr. JOHNSON, Vice-President, in the chair.

The Minutes of the previous meeting were read and approved.

The Chairman of the Committee of Arrangements offered the following resolution: *Resolved*, That no member shall speak at one time longer than fifteen minutes, nor on any motion more than twice,

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without permission of the Association; which was adopted, after having been amended by changing the word "fifteen" to ten.

The Secretary read a letter from the Dean of Cleveland Medical College, regretting the inability of their delegates to attend the meeting of the Association.

Letters of invitation were received from the Steward of the Commercial Hospital, of Ohio, and Prof. O. M. MITCHELL, of the Observatory, to the members of the Association, to visit their respective institutions.

On motion of Dr. EVE, of Ga., it was *Resolved*, That 2½ o'clock P. M. be the hour at which the Association will attend at the Observatory; and on motion of Dr. MCPHEETERS, of Mo., that, in order to give the members time to visit the Observatory, when the Association adjourns, it does not meet until 4 P. M.

The President announced the Resolutions of Dr. BLATCHFORD, as amended by Dr. MILLER, of Ky., as the first business in order. Dr. EVE, of Ga., moved that the Resolutions be indefinitely postponed, which was not adopted.

After much discussion and conversation, the previous question was moved by Dr. EDWARDS, of O., and carried. A motion for a reconsideration having been made, was carried, and the Resolutions being again open for discussion, it was moved by Dr. J. R. WOOD, of N. Y., that the Association go into Committee of the Whole, with Dr. KNIGHT, of Conn., in the chair. This resolution having been adopted, Dr. KNIGHT took the chair, and the Association went into Committee of the Whole.

When the Committee rose to report, on motion of Dr. LOPEZ, the rules were suspended in order to enable him to make an explanation, and read a protest, on behalf of the delegates of the State of Alabama, against certain statements contained in the Report of the Committe on Medical Education, in 1849, and published in the volume of transactions for that year; the protest concluding with the following Preamble and Resolution:—

Whereas, The 3d Section of the Report on Medical Education entitled, "Legal requirements exacted of Medical Practitioners in the several States of the Union," being discordant with the laws of the State of Alabama, now existing, and in force from 1823 unrepealed, and more especially at variance with a strict sense of justice and respect to the Medical Faculty of that State in their professional relations and public standing, *Resolved*, That the foregoing protest be entered upon the minutes of this present meeting and published with its proceedings.

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On motion of Dr. COXE, of O., the protest was accepted and referred to the Committee on Publication. (See *Document* L.)

Dr. LOPEZ, Vice-President, then took the chair.

The Chairman of the Committee of the Whole reported, that they had had under consideration the Preamble and Resolutions of Dr. BLATCHFORD, of N. Y., and certain other resolutions, herewith submitted, proposed by Drs. LAWSON and DRAKE, of O., GROSS, of Ky., and THEOBALD, of Md., which were recommended by resolution of Dr. FLINT, of N. Y., to be referred to the Standing Committee on Education for 1851; and, that they afterwards adopted the accompanying resolution of Dr. CASPAR MORRIS, of Pa., offered as a substitute for the above.

On motion, the Report of the Committee was adopted.

Amendment offered by Dr. LAWSON, of O.

Resolved, That this Association earnestly recommends to the members of the Medical profession throughout the United States, to satisfy themselves either by personal inquiry, or the written certificate of competent persons, before receiving young men into their offices as students, that they are of good moral character, and that they have acquired a good English education.

Resolved, That all Medical Colleges be advised to require of their students to exhibit evidence of a good English education prior to graduation.

Resolved, That Medical Colleges be advised to extend their lecture terms to, at least, five months.

Resolved, That Medical Colleges be most earnestly requested to elevate the standard for graduation, and that no candidate be permitted to receive a degree who does not evince a thorough knowledge of the elements of Medical Science.

Resolved, That those schools which fail to comply with these resolutions be refused a representation in this Association.

Amendment offered by Dr. DRAKE.

Resolved, That the Medical Schools of the United States should require pupils to remain till the end of the session, whatever may be its length, except when permission may be given to depart.

Amendment offered by Dr. THEOBALD, of Maryland.

Resolved, That those Medical Schools in the United States, which have laws requiring a student to be 21 years of age, and to study medicine three years, before he is eligible to the degree of M. D., be requested to enforce said laws; and those which have no such laws to enact them.

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Amendment offered by Dr. GROSS, of Kentucky.

Resolved, That the resolution be so far amended as to strike out the words "of the University of Pennsylvania, and the College of Physicians and Surgeons of New York."

Resolution offered by Dr. MORRIS, of Pennsylvania, as a substitute, passed in committee of the whole, reported to the Association, and adopted.

Resolved, That the recommendations of this Association at its former meetings, in regard to *medical* education, be re-affirmed, and that private preceptors be still urged to receive into their offices only those, duly qualified by previous education to engage in the study of medicine.

On motion of Dr. FLINT the Report of the Committee on Practical Medicine was made the special order of business for the afternoon session.

On motion the Association adjourned to meet at 4 P. M.

Afternoon Session.

The Association met at 4 P. M.

Dr. LOPEZ, Vice-President, in the Chair.

On motion, the Report of the Standing Committee on Surgery was made the order of the day for Friday at 9 A. M., and certain resolutions proposed by Dr. CALDWELL the next succeeding business.

Dr. DRAKE announced that a case of samples of Tilden and Co.'s inspissated extracts had been presented to the Association, and that they were ready to be distributed amongst the members.

Dr. MORRIS, of Philadelphia, asked leave to correct an important error in the resolution which was offered by him at the morning session in committee of the whole, and subsequently adopted by the Association, and that where the word *preliminary* occurs therein the word medical be substituted for it. Leave was granted.

Dr. FLINT, of New York, offered the following resolution, which was lost.

Resolved, That a popular address on some medical subject shall be annually delivered during the session of this Association before the citizens of the place in which it shall meet, and that the nominating committee shall nominate some member of the Association for this purpose, with an alternate in case of his failure.

Dr. WATSON, of New York, presented the following resolution, which was passed.

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Resolved, That Dr. FENNER's projected annual publication on the Diseases and Medical Statistics of the Southern portion of the United States, meets with the cordial approbation of the American Medical Association, and is worthy of the active support and coöperation of the Profession.

Dr. J. K. MITCHELL, of Philadelphia, presented and read the Report of the Standing Committee on Practical Medicine, which was on motion received and referred to the Committee on Publication. (See *Report* B.)

The following list of nominations was presented by the nominating committee.

Medical Sciences.

Dr. BENNET DOWLER, of New Orleans, *Chairman.*

Dr. E. D. FENNER, New Orleans,
" G. L. UPSHUR, Norfolk, Va.,
" W. B. JOHNSON, Marion, Alabama,
Dr. F. G. SMITH, Philadelphia,
" E. CARR, Canandaigua, N. Y.
" G. W. MEARS, Indianapolis, Indiana.

Practical Medicine.

Dr. AUSTIN FLINT, Buffalo, N. Y., *Chairman.*

Dr. H. M. CONGER, Buffalo, N. Y.,
" R. H. DAVIS, Baltimore, Md.,
" W. A. NORWOOD, Hillsboro', N. C.,
Dr. G. L. CORBIN, Halfway House, York Co., Va.,
" J. MCNAUGHTON, Albany, N. Y.,
" R. HAYMOND, Brookville, Ind.

Surgery.

Dr. PAUL F. EVE, Augusta, Ga., *Chairman.*

Dr. J. N. SIMMONS, Griffin, Ga.,
" JOHN WATSON, New York,
" H. H. MCGUIRE, Winchester, Va.,
Dr. S. D. GROSS, Louisville, Ky.,
" C. A. POPE, St. Louis, Mo.,
" A. B. PALMER, Tecumseh, Mich.

Obstetrics.

Dr. D. H. STORER, Boston, *Chairman.*

Dr. E. REYNOLDS, Boston,
" H. MILLER, Louisville, Ky.,
" S. THOMPSON, Albion, Ill.,
Dr. T. M. SMITH, Brandywine, Del.,
" J. PARKER, Kenoska, Wis.,
" A. J. MULLEN, Napoleon, Ind.

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Medical Education.

Dr. WORTHINGTON HOOKER, Norwich, Conn., *Chairman.*

Dr. T. W. BLATCHFORD, Troy, N. Y.,
" J. B. S. JACKSON, Boston,
" E. W. THEOBALD, Baltimore,
Dr. J. R. WOOD, New York,
" N. S. DAVIS, Chicago, Ill.,
" C. J. BLACKBURN, Covington, Ky.

Medical Literature.

Dr. THOMAS REYBURN, St. Louis, *Chairman.*

Dr. W. M. MCPHEETERS, St. Louis,
" L. M. LAWSON, Cincinnati,
" S. ANNAN, Lexington, Ky.,
Dr. J. COUPER, Newcastle, Del.,
" G. TYLER, Washington, D. C.,
" N. L. THOMAS, Clarksville, Tenn.

Committee on Publication.

Dr. ISAAC HAYS, Philadelphia, *Chairman.*

Dr. A. STILLÉ, Philadelphia,
" D. F. CONDIE, Philadelphia,
" H. W. DE SAUSSURE, Charleston,
Dr. J. R. W. DUNBAR, Baltimore,
" I. PARRISH, Philadelphia,
" N. SANBORN, Henniker, N. H.

Committee of Arrangements.

Dr. H. R. FROST, Charleston, *Chairman.*

Dr. P. C. GAILLARD, Charleston,
" H. W. DE SAUSSURE, "
" W. T. WRAGG, "
Dr. J. P. JERVEY, Charleston,
" R. LEBBY, "
" D. J. CAIN, "

The committee also recommended that the next meeting of the Association be held at Charleston, S. C.

It was moved by Dr. BOWDITCH that the whole report of the committee on nominations be received and adopted.

Dr. LAWSON moved that the report lie on the table, but this motion was negatived, and the original motion decided in the affirmative.

Dr. EVANS, of Chicago, presented a brief report from Dr. PRIOLEAU, Chairman of the Committee on Obstetrics, which was read and referred to the Committee on Publication, to be published or not at their discretion.

Dr. EVANS also presented a paper relating to a new instrument invented by him, called the Obstetrical Extractor, and which he exhibited to the Association, describing upon the mannikin the mode of

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manipulating it. The paper was referred to the same committee, and with like conditions as the last.

Dr. DRAKE, as Chairman of the Committee of Arrangements, introduced a paper by Dr. N. S. DAVIS, upon the question "Has the cerebellum any special connection with the sexual propensity or function of generation?" It was read by its author and referred to the Committee on Publication. (See *Document* M.)

The Association then adjourned to Friday, at 9 A. M.

May 10th, Morning Session.

Dr. JOHNSON, Vice-President, in the chair.

The minutes of the previous meeting were read and approved.

Dr. PARSONS, of R. I., Chairman of the Committee on Medical Sciences, presented the report of the committee, which was received and referred to the Committee on Publication. (See *Report* A.)

The Chair announced the Report of the Committee on Surgery, as the special order. Dr. BRECKENRIDGE, of O., moved a suspension of the rules, which motion was lost.

Dr. BLATCHFORD, of N. Y., asked a suspension of the rules to enable him to present a resolution; the Association refused to suspend.

Dr. MUSSEY, Chairman of the Committee on Surgery, stated that he had been requested by Dr. HUSTON, Chairman of the Committee on Spurious and Adulterated Drugs, to be permitted to read that report first, as he was about to leave the city. On motion of Dr. SMITH, of N. J., the rules were suspended, in order to allow the Report of the Committee on Spurious and Adulterated Drugs to be read first, to be immediately followed by the Report of the Committee on Surgery.

Dr. HUSTON, Chairman of the Committee on Spurious and Adulterated Drugs, read his report, concluding with the following resolutions.

Resolved, That the various State and Local Medical Societies be requested to annually appoint Boards of Examiners, whose duty it shall be to procure specimens of drugs from the stores within their limits, for examination, and report upon the same to their respective societies, at least once in every year.

Resolved, That the respectable druggists and apothecaries throughout the United States, be requested to take active measures for suppressing the fabrication and sale of inferior and adulterated drugs,

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and that it is respectfully suggested to them, wherever practicable to form themselves into Societies or Colleges for the promotion of Pharmaceutical knowledge and general improvement in their profession.

Resolved, That a committee be appointed consisting of one member from each State here represented, whose duty it shall be to collect information in regard to spurious and adulterated drugs, and report the same at the next meeting of the Association.

On motion of Dr. STILLÉ, the report was received, and referred to the Committee on Publication, and the resolutions were adopted. (See *Report* J.)

The following committee was appointed under the last resolution:

NATHAN B. IVES, New Haven, Connecticut, *Chairman*.

J. F. SARGENT, Concord, New Hampshire,
CALVIN JEWETT, St. Johnsbury, Vermont,
GILMAN KIMBALL, Lowell, Massachusetts,
EZEKIEL FOWLER, Smithfield, Rhode Island,
GEORGE N. BURWELL, Buffalo, New York,
WILLIAM ELMER, Bridgeton, New Jersey,
R. B. MOWRY, Alleghany City, Pennsylvania,
JAMES COUPER, New Castle, Delaware,
JAMES S. STEVENSON, Baltimore, Maryland,
E. A. HILDRETH, Wheeling, Virginia,
WALTER A. NORWOOD, Hillsboro', North Carolina,
T. L. OGIER, Charleston, South Carolina,
JAS. N. SIMMONS, Griffin, Georgia,
J. T. HARGRAVES, Florence, Alabama,
BENNET DOWLER, New Orleans, Louisiana,
THOMAS LIPSCOMB, Shelbyville, Tennessee,
W. L. SUTTON, Georgetown, Kentucky,
S. HANBURY SMITH, Columbus, Ohio,
G. W. MEARS, Indianapolis, Ind.,
JOHN EVANS, Chicago, Illinois,
D. E. MEADE, St. Louis, Missouri,
J. ADAMS ALLEN, Ann Arbor, Michigan,
SAMUEL G. ARMOR, Davenport, Indiana,
JOHN PARKER, Kenoska, Wisconsin.

Dr. MUSSEY, Chairman of the Committee on Surgery, presented and read the report of the committee, which on motion was received and referred to the Committee on Publication. (See *Report* C.)

Dr. CH. C. CALDWELL, of Ky., presented the following resolutions.

Resolved, That a committe of be appointed to take into consideration, and report at the next meeting of the Association how

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far the sciences of Phrenology and Mesmerism (or Animal Magnetism) are founded in truth? and to what extent a knowledge of them may be rendered subservient to the treatment and cure of diseases.

Resolved, That a committee of be appointed to take into consideration the subject of Vital Organic Chemistry, and report at the next meeting of the Association, whether a branch of science justly entitled to that name actually exists? and if so, how far a knowledge of it can be rendered available to the welfare of man.

Dr. STILLÉ, of Pa., offered the following as a substitute, which was accepted by Dr. CALDWELL, and adopted.

Resolved, That Dr. CALDWELL be requested to prepare a report, to be presented at the next meeting, showing how far, in his judgment, the sciences of Phrenology and Mesmerism are founded in truth, and to what extent a knowledge of them may be rendered subservient to the treatment and cure of diseases.

Resolved, That Dr. CALDWELL be requested to take into consideration, the subject of Vital Organic Chemistry, and report to the next meeting whether, in his judgment, it is entitled to be called a branch of science, and if so, how far a knowledge of it can be rendered available to the welfare of man.

The Committee on Nominations reported the following names for committees.

Committee on Indigenous Medical Botany and Materia Medica.

Dr. A. CLAPP, New Albany, Ind., *Chairman.*

Dr. J. M. BIGELOW, Lancaster, Ohio,
" G. ENGLEMAN, Mo.,
" H. R. FROST, Charleston, S. C.,
Dr. J. CARSON, Philada. Pa.,
" N. B. IVES, New Haven, Conn.,
" U. PARSONS, Providence, R. I.

Committee on Hygiene.

Dr. JAMES MOULTRIE, Charleston, S. C., *Chairman.*

Dr. P. C. GAILLARD, Charleston, S. C.,
" H. W. DE SAUSSURE, Charleston, S. C.,
" D. DRAKE, Cincinnati, Ohio,
Dr. L. H. ANDERSON, Sumpterville, Ala.,
" G. EMERSON, Philada., Pa.,
" J. PARRISH, Burlington, N. Jersey.

On motion the report was accepted and the nominations confirmed.

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On motion the report of the Committee on Medical Literature was made the special order for the afternoon session.

On motion of Dr. YARDLEY, the Committee on Hygiene were requested to report on the best plan of warming and ventilating public and private buildings.

Dr. BLATCHFORD, of N. Y., offered the following resolution: *Resolved*, that a special Committee on Pharmacy and the Adulteration of Drugs shall be appointed by the president, consisting of seven members, of whom Dr. T. O. EDWARDS, of Ohio, shall be chairman, to report at our next annual meeting; and that the special Committee on Forensic Medicine, appointed last year under Dr. STEVENS' resolution, be reappointed, and that it be optional with Dr. STEVENS to continue as chairman, or to appoint a successor, which was adopted and the following committee appointed:—

Dr. T. O. EDWARDS, Cincinnati, *Chairman.*

Dr. T. W. BLATCHFORD, Troy, N. Y.,
" R. M. HUSTON, Philada.,
" H. I. BOWDITCH, Boston,
Dr. E. W. THEOBALD, Baltimore,
" H. R. FROST, Charleston,
" J. B. JOHNSON, St. Louis.

On motion of Dr. MORRIS, of Pa., it was resolved: That it is with great satisfaction the members of this Association have observed the establishment of drug stores in which neither patent medicines, nostrums, nor other articles, by which the artful and designing impose on the ignorant and credulous, are exposed for sale, and that the Association recommends to its members to exert their influence in their respective spheres of action to encourage similar efforts in other places.

Dr. PHELPS, of N. Y., offered the following preamble and resolution, which were adopted: Whereas, the clerical profession often—though, perhaps sometimes, unwarily—yield their extensive influence in the community in giving currency to quackery and quack medicines, therefore *Resolved*, That this subject be referred to the Committee on Hygiene to consider and report at the next annual meeting of the Association.

Dr. W. HOOKER, of Conn., offered the following resolutions:—

Resolved, That the rule in relation to nostrums and secret medicines contained in our code of medical ethics ought to be strictly observed by the medical profession under all circumstances.

Resolved, That when a physician claiming to be the inventor of a

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new medicine, and using the measures of the common quack in effecting its sale, manages to escape censure and punishment, and to obtain even the countenance of a portion of the profession, by revealing the composition of his medicine to such of his medical brethren as may desire it, he is guilty of a dishonourable evasion of the rule referred to, and should be so considered and treated by the whole profession.

Dr. LAWSON, of Ohio, moved to amend by the addition of the following resolution: *Resolved*, that this Association regard it as contrary to its system of ethics for medical journals to advertise nostrums, or secret remedies, although their composition may have been made known to the editor.

The resolutions and the amendment were then adopted.

The Association adjourned to 3½ P. M.

Afternoon Session.

Dr. JOHNSON, Vice-President, in the chair.

Dr. MILLER, of Ky., moved a suspension of the rules, and offered the following preamble and resolution, which were adopted:—

Whereas, clinical instruction in Medicine and Surgery is now generally acknowledged to be essential to the proper qualification of students for the practice of these branches of our profession; and whereas, it must be admitted that clinical instruction in Midwifery would be equally valuable, therefore,

Resolved, That the Committee on Medical Education be instructed to inquire whether any practicable scheme can be devised to render instruction in Midwifery more practical than it has hitherto been in the Medical schools of the United States, and report at the next meeting of this Association.

The Secretary presented several Reports, &c., which, on motion, were made the special order immediately after the report on Medical Literature.

Dr. STILLÉ, chairman, presented and read the Report of the Committee on Medical Literature, concluding with the following resolutions:—

Resolved, That the Association regards the cultivation of Medical Literature as essential to professional improvement, and as adapted to form one of the broadest lines of distinction between physicians and all pretenders to the name.

Resolved, That in the opinion of this Association it is equally the duty and the interest of the profession to sustain its periodical literature, both by literary contributions, and subscription.

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Resolved, That since literary excellence is best developed by literary studies, the formation of Medical Reading Clubs, after the plan set forth in this Report, is urged especially upon physicians in places where the periodical and other medical publications of the day are not readily accessible upon other terms.

Resolved, That the Standing Committee on Medical Literature be instructed to report to the Association at its next meeting what American medical work, published during the year of their service, in their judgment is the most valuable—and that with the consent of the Association, such work shall be formally proclaimed by the President.

Resolved, That State and local societies are hereby recommended to offer pecuniary rewards or other distinction for the best memoirs founded upon original observation.

Resolved, That Medical Colleges are hereby recommended to distinguish the best inaugural thesis of every year by a public announcement of its subject, and the name of its author, and by such other means as they may deem appropriate.

Resolved, That the sum of ONE HUNDRED DOLLARS, raised by voluntary contribution, be offered in the name of this Association for the best *experimental* essay on a subject connected either with physiology or medical chemistry, and that a committee of seven be appointed to carry out the objects of this resolution: said committee to receive the competing memoirs until the first day of March, 1851; the authors' names to be concealed from the committee, and the name of the successful competitor alone to be announced after the publication of the decision.

On motion, the Report was accepted and referred to the Committee of Publication, and the resolutions were considered *seriatim* and adopted. (See *Report* E.)

The following were the committee appointed to carry out the last resolution of the Committee on Medical Literature, viz.:—

Dr. F. G. SMITH, Philada., *Chairman*.

Dr. A. STILLÉ, Philada.,	Dr. F. BACHE, Philada.,
" R. BRIDGES, "	" L. P. YANDELL, Louisville,
" W. L. ATLEE, "	" J. MOULTRIE, Charleston.

The Report of the Committee on an *international copyright law*, Dr. G. B. WOOD, *Chairman*, with a memorial ordered to be prepared at the last meeting of the Association, was read and accepted,

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and the memorial directed to be signed by the officers, and transmitted to Congress. (See *Document* G.)

The Report of the Special Committee (Drs. HORNER, CONDIE, and HAYS), appointed to consider the measures suggested in the Report on Medical Literature for 1849, was submitted; the following resolution appended to the Report was read and adopted:—

Resolved, That in the opinion of this Association the only legitimate means within our reach for the encouragement and maintenance of a National Medical Literature, is to increase the standard of preliminary and professional education required of those who would enter the medical profession; to promote the circulation among the members of the profession of the medical journals of the day; to encourage the establishment of district Medical Libraries, and to induce every practitioner to cultivate with care, the fields of observation and research that are within his reach.

On motion, the Report was referred to the Committee of Publication. (See *Report* F.)

Dr. GROSS, of Ky., offered the following preamble and resolutions, which were adopted:—

Whereas, the interests and the dignity of the medical profession of the United States, as well as a true spirit of patriotism, and a love of independence, demand that we should use all proper and honourable means for the establishment of a National Medical Literature; and whereas, we have hitherto paid too blind and indiscriminate a deference and devotion to European authorities, and not sufficiently patronized and protected our own: therefore,

Resolved, That this Association earnestly and respectfully recommend to the medical profession generally, and to the various medical schools in particular, the employment of native works as text-books for their pupils, instead of the productions of foreign writers.

Resolved, That the editing of English works by American physicians has a tendency to repress native literary and scientific authorship, and ought therefore to be discouraged by all who have at heart the objects contemplated in this preamble.

Resolved, That this Association will always hail with satisfaction, the reprint in their original and unmutilated form of any meritorious works that may emanate from the British press.

On motion of Dr. ROBERTS, of Md., it was *Resolved*, That a committee of three be appointed by the Chair for the purpose of preparing for the action of the Association at its next annual meeting, all unfinished business found upon its records.

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The following gentlemen were appointed: Drs. G. C. M. Roberts, J. R. W. Dunbar, and E. W. Theobald, of Baltimore.

Dr. Roberts, of Md., also offered the following resolution, which was adopted.

Resolved, That all proposed alterations of the Constitution be, and they hereby are laid on the table for the present.

Dr. Drake, of O., offered the following as an amendment to the Constitution.

Resolved, That the second section of the regulations of the Association be so amended as to require that candidates for membership by invitation, be nominated in writing by five members; that when elected they shall enjoy all the rights of delegates, and that all permanent members shall be entitled to vote. The resolution involving an amendment to the Constitution, lies on the table till the next meeting.

Dr. McGuire, of Va., offered the following preamble and resolutions, which were unanimously adopted.

Whereas, in every properly organized community governed by military laws, every member of it should possess a recognized position; as no military organization can be efficient and complete without including a corps of competent surgeons; as the value of their services depends in a great measure upon the degree of respect accorded to them, the common interests of our country and of our profession demand that the legal position of medical men in the army and navy should be such as will secure them due consideration by their military associates, independently of a contingent courtesy; and as efforts are now being made to deprive medical officers in the navy of the relative position or assimilated rank conferred by a General Order of the Navy Department, it concerns the honour of the whole profession to assist its members in the navy to obtain and secure an assimilated rank by law. Therefore,

Resolved, That the American Medical Association is gratified by the legislation of Congress which has conferred military rank on medical officers of the army, as it places them on an equality with officers of the several staff departments, and thus gives them a position to which the importance and dignity of the profession they represent entitles them; and it is earnestly desired that Congress, in its present session, will extend the same privileges and immunities to medical officers in the navy.

Resolved, That the members of the American Medical Association will exert their influence to sustain the just pretensions of their

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brethren to an assimilated rank in the military organizations of the country; and they would view with feelings of deep mortification a proposition from any source to deprive the medical officers of the army of any of the privileges or powers secured to them by the act of Congress, approved the 11th of February, 1847, a law which confers upon them a protective, or conservative rank, and enables them to discharge their duties more effectually.

Resolved, That the members of the American Medical Association hear with regret that several naval commanders have disregarded the general orders of the Navy Department which place medical officers on an equality of rights and privileges (excepting military command) with other officers in the navy; and they consider such resistance of the authority of the Secretary of the Navy an assumption which cannot be sanctioned by enlightened men of the present age, and should at once be put down by public opinion, and by the authority of the government.

Resolved, That a definite position, or assimilated rank, not inferior to that possessed by the medical staff of the army, should be assigned by law to medical officers in the navy, and therefore that the attention of the Senate and House of Representatives of the United States be, and is hereby invited to the subject.

Resolved, That copies of these resolutions be transmitted to the Secretaries of War and of the Navy, through the chiefs of the medical department of each service, and to the presiding officer of the Senate and House of Representatives of the United States.

On motion of Dr. BOWDITCH, of Mass., it was *Resolved*, That the Committee on Medical Education be requested to report at the next annual meeting of this Association, whether, in their opinion, any plan can be devised whereby medical students may receive a more thorough education in practical chemistry than they receive at present at any of the medical colleges of the Union.

The secretary presented the Report of the Committee on Indigenous Medical Botany (See *Report* K.); a Report on the Vital Statistics of New Orleans, by Dr. J. C. SIMONDS (See *Report* I–2); Biographical Notices of Deceased Physicians, by Dr. WILLIAMS, of Mass. (See *Document* N.); all of which were referred to the Committee on Publication; and a Catalogue of Indigenous Medical Plants, by Dr. BIGELOW, of Ohio, which was referred to the Committee on Botany.

Dr. FLINT, of N. Y., submitted the following resolution, which was adopted: *Resolved*, That the manuscript work of the late la-

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mented Dr. FORRY be referred to the Committee on Publication, to be published in connection with the Transactions of the Association, provided it be deemed advisable by the committee, and consistent with the pecuniary resources of the Association.

Dr. W. L. SUTTON, of Ky., nominated by Dr. DRAKE a permanent member, was unanimously received.

On motion of Dr. GROSS, of Ky., it was *Resolved*, That a committee be appointed to report at the next annual meeting of this Association on the propriety of recommending to the American people the importance of establishing schools of veterinary medicine and surgery, in which the diseases of the horse, ox, and dog, and other domestic animals may be investigated, and thorough and sufficient courses of instruction delivered to such young men as may wish to qualify themselves for the practice of the veterinary profession.

Drs. GROSS, D. W. YANDELL, and POWELL, of Kentucky, were appointed.

Dr. M. Z. KREIDER, of Ohio, presented a protest and resolutions against the vending of spurious and adulterated drugs, from the Fairfield County Medical Institute, which was read by the Secretary and referred to the special committee, of which Dr. EDWARDS is chairman.

The following resolution, submitted by Dr. MEAD, of Ill., was referred to the Committee on Medical Education: *Resolved*, That the Committee on Medical Education be instructed to inquire into the expediency of recommending to the Colleges to abolish the rule which allows four years' practice to be received as an equivalent for attendance on one course of lectures, and to require all candidates for graduation to attend two full courses, also the expediency of adopting a uniform rate of lecture fees, varying in amount only between the Colleges of the North and those of the South.

On motion of Dr. STILLÉ, the President was requested to appoint the several Committees called for by the resolutions adopted during the session, and not otherwise provided for.

Dr. JENNINGS, of Mass., offered the following resolution, which was adopted: *Resolved*, That the thanks of this Association be tendered to the Messrs. TILDEN, of New Lebanon, N. Y., for samples of their Medicinal Extracts, which they have presented to this Association.

Dr. MORRIS, of Pa., presented the following resolutions, which were seconded by Dr. L. P. YANDELL, of Ky., and unanimously adopted:—

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Resolved, That the thanks of this Association be tendered to the Committee of Arrangements for the careful and judicious manner in which they have provided for its accommodation, and their constant assiduous attention to promote the convenience of its members.

Resolved, That we appreciate highly the hospitality and courtesy with which we have been received by the medical profession of Cincinnati, and assure them of the heartfelt gratitude with which we shall reflect upon the kindness they have manifested in our reception and entertainment.

Resolved, That the thanks of this Association be presented to the Board of Trustees of the Cincinnati Medical College for the kindness with which they have placed their Hall at the service of this body.

On motion, the Association adjourned *sine die*.

ALFRED STILLÉ,
H. W. DE SAUSSURE, } *Secretaries.*

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REPORTS

OF STANDING AND SPECIAL

COMMITTEES, ETC.

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A.

REPORT OF THE COMMITTEE ON MEDICAL SCIENCES.

THE duties of the Committee on Medical Sciences have been considerably curtailed, since the Association was first organized, by transferring several subjects originally confided to it, to the charge of special committees. By a resolution adopted at the last annual meeting, the customary range of the standing committees was further restricted to the limits prescribed by the Constitution, which directs them to report only upon the progress of American Medicine during the year of their service. This circumstance will account for the brevity of this report, as compared with those of former committees. Hoping, however, that its deficiencies will be more than supplied by the reports which are to follow, the chairman will proceed to state those facts, illustrating the progress of medical science in the departments assigned to this committee,* which have been gleaned from the medical journals and other publications of the year, and from numerous correspondents. These departments are Anatomy, Physiology, General Pathology and Therapeutics, with "other branches of Natural Science, bearing directly on the condition and progress of medical knowledge in America."

ANATOMY AND PHYSIOLOGY.

Arrangement of Cancelli in Bone.—Professor Jeffries Wyman has stated these general conclusions as to the arrangement of the cancelli in human bones.

"1. The cancelli of such bones as assist in supporting the weight of the body, are arranged either in the direction of that weight, or in such a manner as to support and brace those cancelli which are in that direction. In a mechanical point of view, they may be regarded in nearly all these bones as a series of 'studs' and 'braces.'

"2. The direction of these fibres in some of the bones of the human skeleton is characteristic, and it is believed has a definite

* The committee consisted of Drs. Usher Parsons, Jacob Bigelow, J. B. S. Jackson, A. B. Malcolm, James Moultrie, G. Emerson, and David King.

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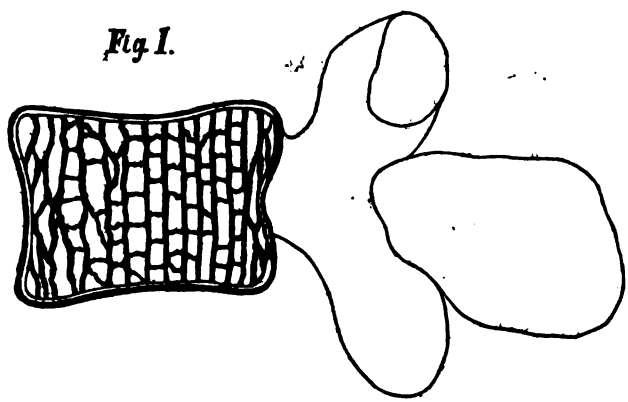
relation to the erect position, which is naturally assumed by man alone."

These structures are most uniform and clearly defined in adult and middle-aged skeletons.

In the lumbar vertebræ, which support the weight of the body vertically, these cancelli run vertically and transversely, the vertical fibres directly sustaining the pressure, the transverse ones bracing them at right angles.

The neck of the thigh-bone is adapted to resist pressure by its oval form, the longest axis being vertical, and by the greater thickness of the wall of bone on its under side, to which the weight is more directly transmitted. Dr. Wyman describes another provision, which consists "in having the cancelli of each femur so arranged as to form a segment of a framed arch or truss, which co-operates with

Fig. 1.



Plan of Lumbar Vertebra.

the external shell in sustaining the weight of the body; the necks of the two femora forming together opposite segments of an arch." He describes two sets of cancelli. One set (*a*, *a*) rests or abuts on the convex surface of the thick shell which forms the under wall of the neck, and from this they diverge toward the upper portion of the head, neck, trochanter major, and portion of the shaft just below this last; those which extend into the head are much the longest. The fibres of the second series (*b*, *b*) are arranged in parallel curves, the extremes of which are attached on the one hand to the wall of bone at the base of the great trochanter, and on the other to that portion of the preceding class of fibres which supports the upper surface of the head, as well as to the shell of bone between it and the trochanter. Both of these series are braced by other fibres,

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which are arranged at right angles to their direction. The cancelli of the great trochanter (*c*) have no determinate form. The internal

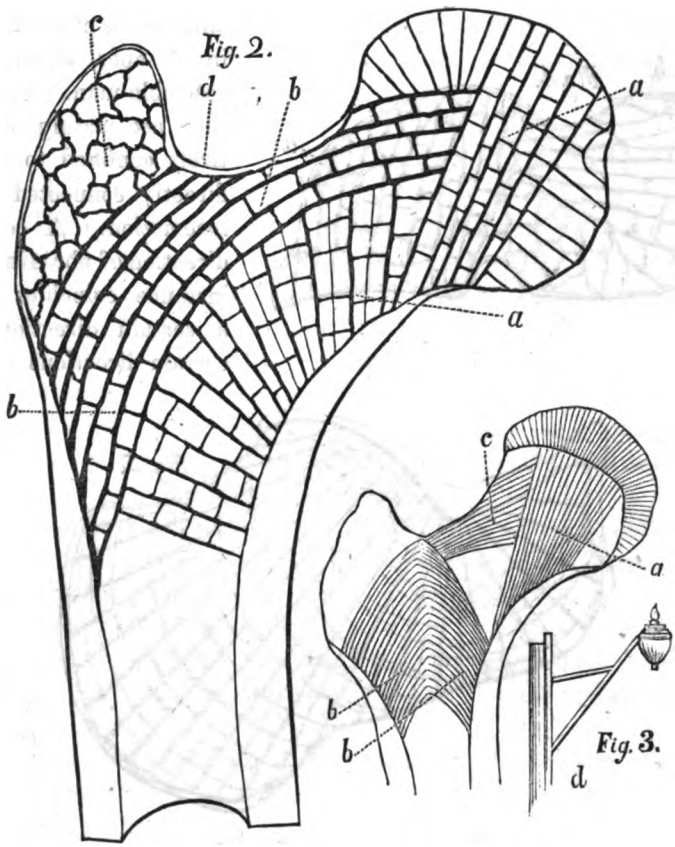

Fig. 2.

Fig. 3.

Plan of Neck of Femur.

fibres thus act as braces, assisting the outer walls to support the weight of the body; the curved fibres (*b*, *b*) resisting by their tenacity, the straight or radiating ones (*a*, *a*) by their rigidity. The long straight fibres (*a*) transmit weight directly to the under side of the neck, and are themselves supported by the curved fibres (*b*, *b*), and these in turn by the radiating fibres (*a*).

In the lower part of the femur and the tibia, the cancelli are adapted to support vertical pressure.

On the astragalus, the pressure is vertical; but this bone rests on two others; one below it, the os calcis, the other in front, the scaphoides; within there exist two series of cancelli, directing the pressure on the surfaces of support. Very nearly the same description applies

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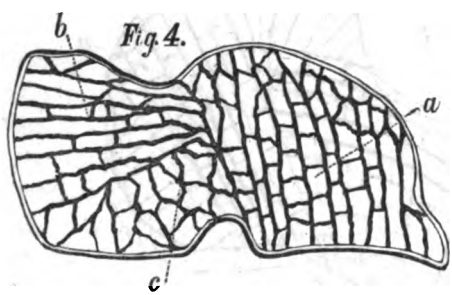
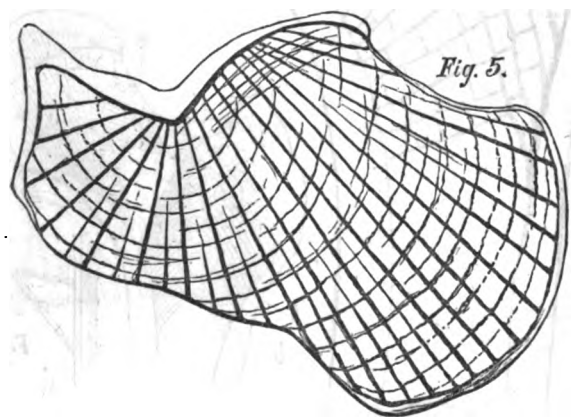
to the os calcis, where there are two intersecting sets of fibres, the one radiating, the other in concentric curves.

These peculiar arrangements are not found in quadrupeds, and only traces of them exist in the apes, which most resemble man. In him, they are mainly or entirely confined to bones directly connected with locomotion. A certain direction of fibres in each instance coincides with a certain direction, or certain directions of the





Plans of Astragalus and Os Calcis.

transmission of pressure. From this constant association of structure and function, says Professor Wyman, the inference seems unavoidable, that they are means and ends.*

Capacity of Crania in different races of Man.—Dr. Samuel G. Morton, author of "*Crania Americana*," a work which does honour to the country and himself, has recently published the results of the internal measurements of six hundred and twenty-three human crania, "made with a view to ascertain the relative size of the brain in various races and families of man." His process for measurement was to fill each cranium with leaden shot, and determine

* Boston Journal of Natural History, vol. vi. No. 1, page 125.

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its absolute capacity, or the bulk of the brain, in cubic inches. He restricted his comparison to the crania of persons sixteen years of age or upwards.

"Among the facts elicited by this investigation are the following:

"1. The Teutonic or German race, embracing the Anglo-Saxons, Anglo-Americans, Anglo-Irish, &c., possesses the largest brain of any people.

"2. The nations having the smallest heads are the ancient Peruvians and Australians.

"3. The barbarous tribes of America possess a much larger brain than the demi-civilized Peruvians or Mexicans.

"4. The ancient Egyptians, whose civilization ante-dates that of all other people, and whose country has justly been called 'the cradle of the arts and sciences,' have the least-sized brain of any Caucasian nation, excepting the Hindoos; for the very few Semitic heads will hardly permit them to be admitted into the comparison.

"5. The Negro brain is nine cubic inches less than the Teutonic, and three cubic inches larger than the ancient Egyptian.

"6. The largest brain in the series is that of a Dutch gentleman, and gives 114 cubic inches; the smallest head is an old Peruvian, of 58 cubic inches; and the difference between these two extremes is no less than 56 cubic inches.

"7. The brain of the Australian and Hottentot falls far below the Negro, and measures precisely the same as the ancient Peruvian.

"8. This extended series of measurements fully confirms the fact stated in the '*Crania Americana*,' that the various artificial modes of distorting the cranium occasion no diminution of its internal capacity, and consequently do not affect the size of the brain."

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TABLE,

Showing the Size of the Brain in cubic inches, as obtained from the internal measurement of 623 Crania of various Races and Families of Man.

RACES AND FAMILIES.	No. of Skulls.	Largest I. C.	Smallest. I. C.	Mean.	Mean.
MODERN CAUCASIAN GROUP.					
TEUTONIC FAMILY.					
Germans,	18	114	70	90	92
English,	5	105	91	96	
Anglo-Americans,	7	97	82	90	
PELASGIC FAMILY.					
Persians,	10	94	75	84	
Armenians,					
Circassians,					
CELTIC FAMILY.					
Native Irish,	6	97	78	87	
INDOSTANIC FAMILY.					
Bengalees, &c.,	32	91	67	80	
SEMITIC FAMILY.					
Arabs,	3	98	84	89	
NILOTIC FAMILY.					
Fellahs,	17	96	66	80	
ANCIENT CAUCASIAN GROUP.					
From the Catacombs. PELASGIC FAMILY.					
Græco-Egyptians,	18	97	74	88	
NILOTIC FAMILY.					
Egyptians,	55	96	68	80	
MONGOLIAN GROUP.					
CHINESE FAMILY,	6	91	70	82	
MALAY GROUP.					
MALAYAN FAMILY,	20	97	68	86	85
POLYNESIAN FAMILY,	3	84	82	83	
AMERICAN GROUP.					
TOLTECAN FAMILY.					79
Peruvians,	155	101	58	75	
Mexicans,	22	92	67	79	
BARBAROUS TRIBES.					
Iroquois,					
Lenapé,	161	104	70	84	
Cherokee,					
Shoshoné, &c.,					
NEGRO GROUP.					
NATIVE AFRICAN FAMILY,	62	99	65	83	83
AMERICAN-BORN NEGROES,	12	89	73	82	
HOTTENTOT FAMILY,	3	83	68	75	
ALFORIAN FAMILY.					
Australians,	8	83	63	75	

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Embryonic Conditions persistent in the Cranium.—Dr. John Neill mentions two peculiarities which are more or less completely characteristic of the African skull. One is the division of the articulating surface of the occipital condyle into two faces by a transverse ridge or groove. The two faces are sufficiently rounded off in some cases to give the outline of the figure 8, instead of an oval. On an examination of Dr. Morton's collection, which adorns the Hall of the American Academy of Natural Sciences, it was found that this mark existed in thirty out of eighty-one African crania, in only four pure Egyptian heads, and three out of one hundred and five heads of Aboriginal Americans, but in none of the one hundred and twenty-nine skulls of other nations, whose history was well known. The occasional existence of this mark has been previously noticed, but Dr. Neill has first pointed out its rarity in other than African crania. He suggests that this transverse mark represents the fissure which in the fœtus separates the basi-occipita bone from the next piece of the occiput on each side. This fact, if it holds generally, may be considered an illustration of the law thus propounded by Agassiz: "In the different formations through which animals pass, from the first formation in the embryo up to the full-grown condition, may be found a natural scale, by which to measure and estimate the position to ascribe to any animals." Thus, the persistence of a fœtal stage of formation would mark the race to which it was peculiar as a lower variety of the species.

Fig. 7.

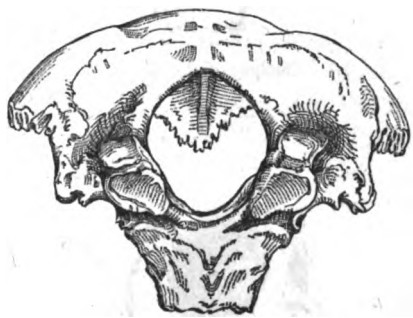
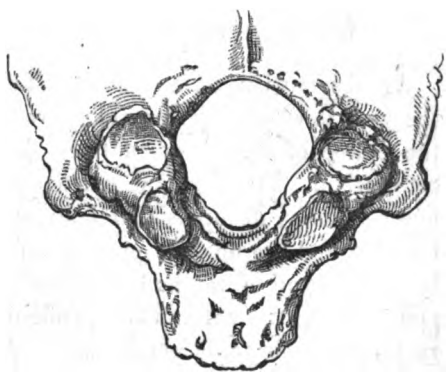


Fig. 8.



Another fœtal peculiarity persistent in the African head, is the absence of a sharp edge at the lower boundary of the

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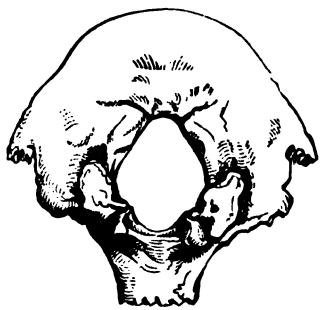
anterior nares, running from the anterior edge of the nasal process to the anterior nasal spine. Other bones of the skull, according to Dr. Neill, exhibit similar facts.*

Fig. 9.

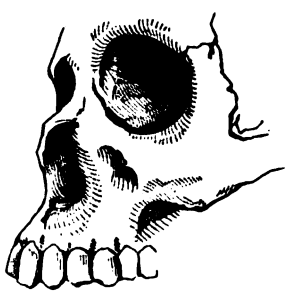


Occiput of the Fœtus.

Fig. 10.

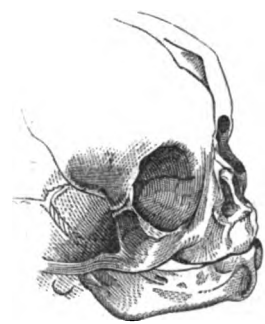
Superior Maxilla of the Caucasian.

Fig. 11.



Facial Bones of the African.

Fig. 12.



Facial Bones of the Fœtus.

An observation, by Dr. Joseph Leidy, not strictly falling within the year to which our researches are confined, but which has escaped the notice of former committees, deserves to be recorded in this connection. The constant existence of an intermaxillary bone in lower animals, its occasional distinct existence in man, in cases of hare-lip, and the uniform presence of a transverse fissure behind the incisive alveoli of the human fœtus at birth, have suggested a suspicion of the normal and independent existence of this bone in the very early embryonic condition. "As the *negro* in his anatomical characters is not so far removed from the embryological condition

* American Journal of Medical Sciences, Jan. 1850.

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as the *white*," attention was called to the examination of embryos of the negro race. Dr. Leidy lately met with a specimen where the intermaxillary bone was quite distinct, in an embryo one inch and eleven lines long from heel to vertex, and presumed to be about nine or ten weeks old. The line between this bone and the superior maxillary passes through the alveolar ridge between the incisive and the canine alveoli, and extends transversely inward behind the incisive alveoli, and vertically upward, nearly bisecting the nasal process. Specimens exhibiting the same separation, but a later stage of development, are in the Wistar Museum.*

It is not stated whether any of these specimens were from the negro race.

Hair of Different Races of Men.—P. A. Browne, LL. D., of Philadelphia, communicated to the American Ethnological Society an essay, since published, entitled "The Classification of Mankind by the Hair and Wool of their Heads," with an answer to Dr. Prichard's assertion that the covering of the head of the negro is hair, properly so termed, and not wool. The author of this paper states that, on microscopic examination, there appear to be three prevailing forms of the transverse section of the filament, viz., the cylindrical, the oval, and the eccentrically elliptical. There are also three directions in which it pierces the epidermis and is prolonged to its apex. The straight and lank, the flowing or curled, and the crisped or frizzled, which is sometimes also spirally twisted, differ respectively as to the angle which the filament forms with the skin on leaving it. While the cylindrical and oval pile has an oblique angle of inclination, the eccentrically elliptical pierces the epidermis at right angles, and lies in the dermis perpendicularly. The hair of the white man is oval; that of the Choctaw and some other American Indians is cylindrical; that of the negro is eccentrically elliptical or flat. The hair of the white man, besides its cortex and intermediate fibres, has a central canal, which contains the colouring matter when present. The wool of the negro has no central canal, and the colouring matter is diffused when present, either throughout the cortex, or this and the intermediate fibres. Hair, according to these observations, is more complex than wool. In hair, the enveloping scales are comparatively few, smooth of surface, rounded at their points, and closely embrace the shaft; in

* American Journal of Med. Sciences, April, 1849, page 537. A description and engravings of the two bones are there given.

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wool, they are numerous, rough, sharp-pointed, and project from the shaft. Hence the hair of the white man will not felt; the wool of the negro will.

The chairman of this committee has recently had the opportunity of examining a young Bushman, brought to this country by Mr. Isaac Chase, formerly United States consul at the Cape of Good Hope. He was the only specimen of this tribe known to have reached this country, and died during the last summer of cholera. His hair lay in little distinct, compact curly tufts, twisted spirally; and in the intervals of these tufts, the skin was distinctly seen. The filaments were very fine, some of them five inches long, and black. They contained a distinct cortex, and granular medulla. The transverse section of a filament resembled that of the negro's, except in being concave on one of the two longer sides of the ellipse; that is, it was flat, and concavo-convex.

Vascular Injection for Microscopic Researches.—Dr. P. B. Goddard describes a new material and process for making very minute anatomical injections, adapted for examination by the microscope. The materials are vermilion very finely ground in oil, and sulphuric ether; one part of the vermilion paint being put to twenty or thirty parts of the ether, to be well shaken before use. This is to be injected with a slow, gradual, and moderate pressure, by an artery, leaving the corresponding vein open. The coloured matter at first issues from the vein, but soon only clear ether appears. The ether may be driven off by heat, leaving a very minute injection of the capillaries.*

Direct Exploration of the Interior of the Eye.—Dr. T. Wood, of Cincinnati, has described phenomena which suggest a new mode of direct exploration. He states that, by means of a small double convex lens, of short focus, held near the eye, that organ looking through it at a candle twelve or fifteen feet distant, there will be perceived a large luminous disc, covered with dark and light spots and dark streaks, which, after a momentary confusion, will settle down into an unchanging picture; which picture is composed of the organs or internal parts of the eye. The eye is thus enabled to view its own internal organization, to have a beautiful exhibition of the vessels of the cornea, of the distribution of the lachrymal

* Philadelphia Medical Examiner.

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secretions in the act of winking, and to see into the nature and cause of muscæ volitantes.

To impart to others an idea of this representation, as well as the mode of analyzing the phenomena, a few figures accompany the communication. The explanation given is, that the light and dark moving spots in the plane of the cornea represent the tears and fluids that lubricate the external conjunctival surface of the organ; the vascular net-work, seen posterior to this, is an arrangement of blood-vessels in the structure of the cornea, which Dr. Wood believes himself to have been the first to observe; the fringed circle that bounds the illuminated disc is the inner edge of the iris; and what have been called muscæ volitantes, are only the globular vesicles of the vitreous humour, posterior still to the preceding, assuming a chain-like arrangement toward the central vertical line, and are essential parts of the organ, instead of being abnormal. The reasons for this opinion accompany the details of the exposition, which are also shown to be compatible with the laws of optics.*

Experiments on the Motor Powers.—Dr. Bennet Dowler, of New Orleans, has been favourably known as a medical observer. Within the year, he has furnished some new "Contributions to Physiology." He gives an account of vivisections performed on the great Saurian of Louisiana. Seven alligators appear to have been sacrificed in these experiments. One alligator, after the spinal marrow had been cut across, between the shoulders and hips, "during a period of two hours, displayed complete intelligence, volition, and voluntary motion *in all divisions of the body.*" The signs from which Dr. Dowler makes this inference were, associated and adaptive movements of the lateral muscles of the body, and of the hind legs, in response to irritations applied to the viscera, or above the part of the spinal marrow which was divided. Others showed similar powers after decapitation, or after the brain and medulla oblongata had been removed. In one case, these movements were produced by "pinching, puncturing, and burning," for three or four hours after the head was cut off. Tying the trachea stopped them sooner and more completely. The separated heads, until the brain was destroyed, continued to show their vitality by biting, winking, looks of anger and fear, and, in one pathetic instance, by affectionately recognizing the voice, and eyeing the movements, of a fond negro!

* Western Lancet and Hospital Reporter, Nov. 1849.

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One alligator was beheaded with a dull hatchet, producing little hemorrhage. Dr. Dowler thus relates the sequel: "I carried the handle of the knife towards the eye, to ascertain whether it would wink, whereupon the ferocious separated head sprang up from the table with great force at me, passing very near my breast, which received several drops of blood; it alighted upon the floor, from six to eight feet distant from its original position!" Dr. Dowler, who is familiar with the anatomy of the alligator, can find no muscle to account for this feat.

Dr. Dowler seems to believe that these observations are destined to overthrow received doctrines in neurology; those of Marshall Hall in particular. But these doctrines recognize the indisputable facts that associated and adaptive movements take place independently of the brain, not through the medium of feeling and volition; and that irritation of one point of the spinal marrow, or one spinal nerve, will cause motions in distant parts of the motor apparatus. Dr D. regards all such movements as signs of intelligence, feeling, and will, a view we suppose to be disproved by numerous facts.

His experiments would appear to show that, after the spinal marrow was thoroughly divided, the *lower* limbs moved on irritants being applied to the *upper* parts of the trunk. This, if confirmed by larger experience, is not in accordance with doctrines founded on the numerous and trustworthy observations of European physiologists. The heart was seen to beat after being freed from blood, separated from the nerves, roughly handled, and considerably desiccated; well illustrating its inherent contractile power.

Dr. Dowler is a bold experimenter, and his laudable zeal and industry have already added many valuable facts to medical science, and we doubt not his future labours will either strengthen or correct the opinions he has advanced.

Development of Organic Cells.—Since the discoveries of Schwann and Schleiden on the formation of cells, the essential organic element of animal and vegetable bodies, little has been added to their doctrines. Their account of the appearance of nuclei in an organizable liquid, and of the growth of cells upon and around these nuclei, has been applied to all living forms. Dr. W. J. Burnett laid before the American Association for the Advancement of Science, at its late meeting in Cambridge, some observations on the origin of animal cells, quite different from the views generally received. His observations were made on the epithelial cells of

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mucous membranes, and on pus-cells, the result of inflammation. He thus describes their results: "In the first place, there appears in the cyto-blastema, a dark point or nucleus.

"2. This nucleus is next seen to be a hollow sphere, containing nothing but a clear liquid.

"3. This clear liquid is cloudy, and filled with minute immeasurable granules.

"4. The cloudiness is less marked, and in some cases nearly absent, but a dark body is seen in its centre.

"5. By this time the cell-membrane, or the wall of the primal nucleus hollowed out, has much enlarged, so that we have then a distinct nucleated cell.

"6. This nucleus then begins to be hollowed into a sphere, as did its predecessor, and then passes like that from a clear to a cloudy vesicle, until the formation of its own nucleus. By this time, the outer cell-membrane bursts, having completed its term of existence; this having taken place, the nucleus is discharged, and we have then a *nucleated* cell as before. Sometimes, however, the outer cell-membrane does not burst, and we have then a *nucleolated* cell; but this is not the most common manner of proceeding."

Besides this endogenous method of reproduction, the cells, particularly those belonging to epithelial structures, are sometimes multiplied fissiparously, as occurs most commonly with vegetable cells.

These observations are quite analogous to those of Agassiz on the development of the ova of radiata and mollusca. It would seem that the great law of development is the same in both cases. If so, this is a new acquisition in science; the morphological identity of the cell and the ovum having never before been traced from actual observation, so far as known by Dr. Burnett.

Professor Agassiz, after the reading of this paper, made some remarks, suggesting that the difference between animal and vegetable cells had not been sufficiently attended to, and that a broad field of inquiry is opened in the comparison of different forms of cells. He pointed out the analogies and differences between the egg-cell and cells developed in full-grown animal tissue.*

Allotropism in the Living Organic Elements.—Professor J. W. Draper, of New York, offers some observation on "the existence

* Proceedings of American Association for Advancement of Science, Second Meeting page 261.

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and effects of *allotropism* in the constituent elements of living beings." It is not necessary to explain the meaning of this term, which is applied to inorganic and elementary bodies that appear in different forms, assuming different physical and chemical relations. The three leading neutral nitrogenized bodies, fibrin, albumen and casein, are in a remarkable manner allotropic. First, they are mutually convertible, hardly deserving to be called distinct substances more than charcoal, plumbago, and diamond, allotropic forms of carbon. Again, each one of them easily assumes new forms; one variety of fibrin being soluble in water, another being not so, &c.

Of the agents which, in the inorganic kingdom, bring about these changes, the imponderable principles are the most important. Dr. Draper believes that the nervous system has a similar power of changing the allotropic condition of these proximate elements of the body, and that the existing allotropic state of an organized molecule determines whether it shall yield to the oxidizing influence of arterial blood, or not, "that this is the fundamental fact on which all the laws of interstitial death depend." He suggests that inflammation may begin by an allotropic change in the soft solids of the part, disposing them to more active oxidation. Hence, according to the laws of circulation he has formerly so beautifully developed, an increased afflux of blood would result. Hence, too, a higher proportion in the urine of urea and sulphuric acid, results of the oxidation of the proximate elements above named. In congestion, these conditions are all reversed. This view seems to harmonize with the facts, and presents them more clearly to our minds.*

Quantity of Blood in the Body.—Professor James Blake, of the St. Louis University, has communicated the results of some experiments, made to determine the quantity of blood in the body. A weighed quantity of sulphate of alumina was injected into the veins, and a weighed portion of the blood analyzed. The salt having time to mix well with the blood of the animal before death, the analysis furnished the means of determining the whole amount of blood with which the salt had been mixed. The combination of the salt with the tissues might, however, prove a source of error, or a fallacy might arise from its having been excreted. But this would affect the result only in one direction, namely, by furnishing a greater

* London, Edinburgh, and Dublin Philos. Mag., April, 1849, page 241.

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quantity of blood than really exists. But these experiments, in fact, would show the weight of the blood of a dog to be one-eighth or one-ninth the weight of the animal, which is much less than the generally believed average amount. And that this is a nearer approximation to the truth than has yet been attained, is evident from the fact that it corresponds best with the velocity of the circulation and relative capacity of the heart, it being difficult to conceive how, upon the common belief, the blood can circulate with so much rapidity.*

Lymph-Corpuscles Visible in Dried Blood.—When blood exists on articles of furniture, clothing, &c., in large quantities, general inspection with the aid of chemistry will determine its presence with sufficient accuracy; but it is not unfrequently found on wearing apparel, walls, instruments, &c., in quantities too small for analysis. Often the mere statement of a non-professional spectator or policeman has been admitted as evidence, when the opinion of a physician even should have been received with great caution.

Cases are mentioned in treatises on Medical Jurisprudence, (see *Taylor's Med. Juris.*, Lond. edition, p. 334,) in which persons have been arrested and tried solely in consequence of spots having been found on their apparel or property which were supposed to be blood. Spots of tobacco-spittle have been unhesitatingly pronounced to be blood by non-professional persons and policemen, the true nature of which was subsequently shown by the microscope. It is a matter of no little interest to determine some positive sign or character by which blood, especially dried blood, may be recognized, or by which other substances may be shown to differ from blood.

In an attempt recently made to determine the nature of certain marks supposed to be those of blood, it was found that the microscope gave a reliable means, in some instances, of making this distinction. But little or no reliance can be placed on it in determining whether the blood be that of man or of some of the higher animals. The test mentioned below is not known to be given in works on Medical Jurisprudence.

It had been expected, in these recent observations (in the Massachusetts Medical College), that the blood-discs would become visible when dried blood was softened with salt and water or syrup. But they seldom appeared with any degree of distinctness, especially

* Philadelphia Med. Examiner, Aug., 1849, page 459.

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when the blood was dried in drops; but if it were spread on glass in an exceedingly delicate film, they were distinctly visible even when dry. A scale or small fragment of dried blood placed under the microscope, and moistened with syrup, soon began to soften down and diffuse itself, or at least expand itself in the liquid. In a few minutes, transparent spots appeared; and these were found, when carefully examined, to consist of vesicles or cells, in which were easily detected, with a magnifying power of five or six hundred diameters, four or five small granules or nuclei. These are the transparent, or "colourless corpuscles." In the drying and subsequent softening of the blood, the blood-discs cease to be easily recognized, while the lymph corpuscles readily assume their original form, even when dried and moistened more than once. These experiments have been repeated a great many times, and the lymph-corpuscles were invariably recognized; they seem therefore to be worthy of mention in connection with legal medicine.

Tobacco-spittle, when placed under the microscope, even if it has been dried and subsequently softened, is found to contain, in great numbers, the epithelium cells from the mouth, also the cuticle scales and hairs of tobacco-leaf, which are at once sufficiently indicative of the sources from which the fluid was derived.*

Relations of the Nitrogen of the Air to Respiration and Voice.— Professor James Moultrie, a member of this committee, has published a paper on the uses of the nitrogen of the air in respiration. It is known that the quantity of nitrogen in expired air is not materially changed, or at least the change is not constant enough to warrant a belief that nitrogen takes any active and essential part in the chemistry of respiration. Physiologists have had to content themselves with the rather meagre view that it serves simply to dilute the oxygen. Dr. Moultrie suggests that the nitrogen is important to the physical relations of the respiratory function, regulating the tension of the air in the pulmonary vesicles, or its volume, or both. It would serve chiefly to regulate the tension of the pulmonary air during expiration. As a medium of sound, responding in part to the vibrations of the vocal chords, or exciting their vibrations, or preserving the volume and tension of the pulmonic air in that state which is essential to the ready and constant use of these organs as instruments of voice, would not the withdrawing of one-half of that

* Communicated by Professor Jeffries Wyman, who conducted the investigation.

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element materially change their value in the part assigned them in animal life to fulfil? By ingenious symbols, Dr. Moultrie traces the nitrogen particles from the atmosphere till they part from their oxygen in the pulmonary vesicles, and shows that then, mingled with the carbonic acid and vapour which are to be exhaled, they must contribute to preserve the volume and tension of the cells and extreme tubes of the lungs.*

On Parasitic Life.—Dr. J. Leidy has established the fact that cryptogamic vegetables exist, as a normal condition, in the interior of several species of healthy animals. He describes three new genera of entophytes—Enterobrus, Cladophytum, and Arthromitus —being all confervoid or mycodermatoid. All are found growing from the mucous membrane of the small intestine and commencement of the large intestine of Julus marginatus (*Say*), and from entozoa inhabiting these cavities in the same animal. They were uniformly found in one hundred and sixteen examinations of animals of this species, made immediately after death. In one instance, an ascaris, three lines long, "had no less than twenty-three individuals of Enterobrus, averaging a line in length, besides a quantity of the other two genera, growing upon it, and yet it moved about in so lively a manner that it did not appear the least incommoded by its load of vegetation."

The important point in these observations is, that they show cryptogamic vegetables may exist in the internal organs, and upon entozoa inhabiting these organs, without disturbing the health, and even as an ordinary and normal condition. This does not rebut the idea that other cryptogamia may produce diseases. They are known to exist in aphthæ, in many diseases of the skin, have been found in the secretions of cholera and several acute diseases,† and were lately observed by Dr. Leidy in a case of softening of the stomach. Whether in these instances they are cause or effects of the morbid state, or even a mere coincidence, is not decided.

Dr. Leidy regards the microscopic forms known as Vibrio, as vegetable. In this opinion, he is supported by other observers. After mentioning the discovery of several species, and a new genus of entozoa, he notices the existence of Gregarina in the ventriculus of Julus marginatus. Gregarina has recently attracted much attention, as being supposed to be an animal consisting only of two cells,

* Charleston Medical Journal and Review, May, 1849, page 265.

† See London Journ. of Medicine, Nov. 1849.

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and said by Diebold to be destitute of an alimentary canal. Dr. Leidy describes a papilla surmounting the superior cell, with traces of an external communication with the cavities of the cells. He regards it as the larva of the entozoon.*

Dr. H. I. Bowditch has communicated observations on the animal and vegetable parasites which infest the human teeth. They were found in almost every instance among more than forty persons examined, from all classes of society. Of the animal forms, there were three or four species; of the vegetable, one or two. The only persons whose mouths were quite free from them cleansed their teeth four times a-day, using soap once. The number of parasites was proportioned to the neglect of cleanliness. Tobacco juice and smoke did not impair their vitality. The same was true of the chlorine tooth-wash, of powdered bark, soda, ammonia, and various other popular detergents. Soap appeared to destroy them instantly. Pure white soap is recommended as the best substance for cleansing the teeth.†

PATHOLOGY.

On Endemic, Epidemic, and Contagious Diseases.—Some of the finest minds in the profession have lately given to the world their views on the subject of the propagation of epidemic and communicable diseases. The work of Professor John K. Mitchell, on the Cryptogamic Origin of Malarial and Epidemic Diseases, was noticed in last year's report.

Professor J. Knight, of Yale College, has published an Introductory Lecture "On the Propagation of Communicable Diseases." He first considers those affections which are *well known* to be communicable, whether purely local, or attended or followed by constitutional symptoms. From many facts in regard to them, he shows that a disease is not proved to be communicable because many in the same family or neighbourhood are attacked in succession, nor because it travels from place to place. Neither is a disease proved to be not communicable because it sometimes assumes an epidemic character and course—nor because it often or even usually arises from the common external causes of disease—nor because in other respects it does not resemble certain diseases acknowledged to be communicable, as, for instance, the exanthemata—nor because all

* Proceedings of Academy of Natural Sciences, Oct. 1849.

† Proceedings of American Academy of Arts and Sciences, Dec. 1849

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who are exposed in an equal degree, or many who are exposed in every degree, do not receive it—nor because, at certain times and places, none of those exposed will receive it. A predisposition or susceptibility must exist, as well as an exciting cause.

Now, cholera, when once prevalent in a place, can hardly be traced to communication, or proved to spread in this way. But the facts in regard to its recent beginning at New York, New Orleans and New Haven are related, and shown to be very similar to those which might attend the commencement of an epidemic of small-pox. They certainly seem at first sight to prove that it spread by communication; and, according to the principles laid down above, the apparently opposing facts do not disprove this idea. Similar facts might be stated in regard to dysentery, erysipelas, and yellow fever.

Dr. Knight's conclusions in regard to this class of diseases are thus stated:—

"1st. All febrile diseases, of a typhoid and malignant type, depend upon, as their predisposing cause, a certain endemic or epidemic constitution of the atmosphere. What this state is is entirely unknown.

"2d. This epidemic constitution, aided by the common exciting causes of disease, is at times sufficient to produce them.

"3d. Whenever this epidemic constitution is present, they will be communicated from the sick to the well, and this communicability is a common cause of their propagation."

Professor S. H. Dickson, of New York, looking at the same subject from another point of view, and passing through a different train of thought, suggests somewhat similar conclusions as to the contagiousness of the same class of diseases.

He mentions two essential characters of contagion. The matter which produces contagious disease must be germinal, or self-multiplying, and this reproduction must depend upon, or be favoured by the very processes of disease which itself gives rise to. The reproductive character, and therefore the organic nature of this matter, which produces contagious disease, is proved by its propagating itself by mere inoculation, with no outward favouring circumstances. When contagious diseases spring up without contagion, from ordinary exciting causes, these causes probably act by exciting the tissues of the body into such morbid processes as engender the germ of disease. We cannot suppose that the outward causes directly produce this germ, since life can only spring from pre-existing life.

The essential matter of contagion is never isolated and examined

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by itself, and is too minute to be studied with the microscope. It exists in the cells of cancer—in the newly-produced fluids of the exanthemata—in the pus-globules, and the ichor of certain specific diseases—in connection with animalcules or fungous vegetation—and, lastly, diffused through the blood or certain normal secretions. But it is distinct from all these visible forms which accompany it; it is contained in the fluids, but not identical with them; it is associated with these organic forms, but is not identical with them. In psora, the fact of its communication by fomites, on which the exuding fluid has long been dry, is presumptive proof that the living acarus scabiei is not the essential contagious substance. Dr. Dickson suggests that this might be tested by using the fluid of the itch vesicle, carefully distinguished from the acarus, for inoculation.

As the matter of all contagions is inseparable, and too minute for analysis, we cannot be surprised that it radiates, and is sometimes propagated without contact. The germ of variola may perhaps grow and multiply in another nidus than the human body, which is its proper habitation; as, for example, in the air filled with animal matter; just as rice will grow on damp cotton, or as air-plants grow. This may account for the epidemic prevalence of this disease, and for its springing up at such seasons without any known contagious source. That a sporadic pestilence should occasionally be epidemic is as natural as that one season should be prolific in fruits and insects, which in another season are scarce. All the febrile contagious diseases may be propagated by radiation, except vaccinia, which is not properly a human disease. All non-febrile contagious diseases require contact, it is believed.

The contagiousness of certain diseases is matter of dispute. Typhus, pertussis, puerperal fever, dysentery, yellow fever, cholera, present no palpable matter of contagion, are not conveyed by inoculation, and only very irregularly by infection; but they become epidemic, are self-propagating, easily spreading from a focus, and must be ranked as contagious. Their contagious germ is proved to be organic, and to have its nidus in the human body. In the case of cholera, this is shown by its spread, independent of temperature, soil, and other telluric influences, by its following large masses of human beings, its close adherence to well-adapted centres, and its prompt multiplication under favouring circumstances.*

Professor Dickson speaks of the relations of parasitic life to con-

* American Journ. of Med. Sciences, July, 1849, page 107.

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tagion. Parasitic forms always co-existing with certain communicable diseases, and never existing without them, may be considered as virtually the germ of disease. But he mentions many instances where parasites do not interfere with the health of the animals they inhabit, or where they even exist as a normal condition. The important observations of Drs. Leidy and Bowditch, already detailed, illustrate and confirm this view.

Irregular Malarial Diseases.—Professor Kirtland mentions the important influence of malaria in producing not merely fevers, but obscure and anomalous affections, especially of the nervous system. Their prognosis depends in great measure on a correct diagnosis; as, if the cause be allowed to go on unchecked, the results may grow more serious; tubercular disease being often produced. Cinchona and its preparations are not always sufficient remedies. Believing that the nervous centres are primarily attacked, Dr. K. recommends the attempt to excite in these centres an artificial action more compatible with health than the disease is, and to thus overcome the original morbid action. He says that strychnia is extensively used with this view in northern Ohio, and with good success.* In New England, the same remedy is employed in neuralgic cases, under the name of homœopathy.

Re-vaccination.—The late lamented Dr. Fisher, of Boston, who has long given attention to the subject of variola and kindred diseases, and published the best description of them extant, has recently advanced the following propositions, supported by numerous statistical facts:—

"1. That one single and perfect vaccination does not, for all time, in all cases, deprive the system of its susceptibility of variolous disease.

"2. That one or more re-vaccinations *do;* and that, consequently, a physician should recommend re-vaccination, when questioned as to its necessity."

Dr. F. had made other observations, from which were drawn these conclusions:—

"1. A portion of vaccinated persons are protected from smallpox through life by one vaccination.

"2. An indefinite number are protected only for a certain period of time.

* Proceedings of Ohio Medical Convention.

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"3. The length of time they are thus protected is undetermined.

"4. Some individuals require to be vaccinated a number of times during life.

"5. The system is protected from variolous contagion, when it is no longer susceptible of vaccine influence, as tested by re-vaccination.

"6. The cow-pox virus does not seem to be more efficacious than the human vaccine virus in its prophylactic virtues, and the influence of the vaccine virus does not seem to be diminished by the number of its removes from the cow, or passages through the human system.

"7. The appearances of vaccine cicatrices furnish no indication that the system may or may not be again influenced by repeated vaccinations.

"8. A plurality of vesicles have no more effect in rendering the system less obnoxious to the influence of re-vaccination than a single vesicle has.

"9. The lapse of time from the period of primary vaccination to that of re-vaccination has some, though but little, effect in preparing the system to be further influenced by the vaccine virus.

"10. The age of puberty tends in a degree to destroy the effect of primary vaccination.

"11. The virus contained in vesicles resulting from re-vaccination has the same anti-vaccine and anti-variolous power as that which is the product of vesicles produced by the primary vaccination."*

Cholera.—The duty of tracing "the progress of epidemics" is assigned to another committee, and the eminent attainments of the chairman of that committee warrant us in expecting that the history of the epidemic cholera of the past year will be presented in the most able and instructive manner. It will be our own duty simply to notice facts connected with the pathology of this disease.

In the admirable "Report on the Cholera in Boston in 1849," published by the city, we have the details of thirty-three autopsies; twelve of males, twenty-one of females. The large majority were adults; the oldest sixty years of age. "The most remarkable and constant appearances were the following:—

"1. An unusual dryness of the pleura, particularly where the anterior edges of the lungs overlap the pericardium; so that, on raising them, the two pleural surfaces separated from each other with some difficulty, and presented a dry and wrinkled appearance, instead of their usual moist and polished aspect.

* Boston Medical and Surgical Journal, Jan. 1850, p. 502.

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"2. A nearly empty condition of the pericardium; that cavity often containing not more than eight or ten drops of fluid.

"3. The peritoneum was smeared with a thin layer of slimy, opaline secretion, which was drawn out into minute threads on separating the convolutions of the small intestine. When this substance was not in sufficient quantity to be visible on the peritoneal surface, it could be collected by drawing a few coils of intestine through the fingers, when its slimy, sticky feel was easily recognizable.

"4. A moderate swelling and opacity of Peyer's patches, and of the solitary glands in the lower part of the small intestine; in the large intestine, a similar development of the mucous follicles, the mouths of which were often widely open, and sometimes marked by a black point.

"5. A shrivelled condition of the spleen with deficiency of blood.

"6. A completely contracted and empty state of the urinary bladder, the mucous surface of which was smeared with a thickish, creamy secretion, sometimes abundant, sometimes moderate in amount.

"7. The mucous surface of the vagina was smeared with a somewhat similar secretion, but thicker and less opaque than that in the bladder; rather like thick starch in consistency and aspect."

In the blood, the coagulum was generally remarkably deficient in quantity, or consistency, or both; but not by any means universally so. The consistency of the fluid part varied considerably; in fifteen cases, it was more or less thick and tarry, either throughout the system or in particular situations, often varying in different vessels in the same subject. In fourteen cases, ecchymoses were observed, mostly beneath the endocardium or pericardium, occasionally in the parenchyma of the lungs, on the surface of the kidney, or between the lobules of the pancreas.

The brain was almost universally natural. Moderate serous effusion in the meningeal cavities and the ventricles was often found. In fifteen cases, a quantity of dark, thick, bloody fluid was found in the arachnoid cavity, over the posterior part of the convexities of the hemispheres, just sufficient to besmear the arachnoid surfaces, the arachnoid itself remaining at the same time quite natural. This blood probably transuded after death.

The heart and lungs seldom showed marks of any great congestion; the right cavities of the heart were seldom distended.

The contents of the alimentary canal were various—"thick, thin,

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gruelly, gray, yellow, yellowish-white, pink, reddish, or puriform"—sometimes like soap and water, or thickish and dull red, or like rice-water. Albumen and the colouring matter of bile were often present. The flocculi of the "rice-water" fluids, examined by the microscope, were seen to contain columnar epithelium, in masses or detached cells, which constituted nineteen-twentieths of their mass.

The internal surface of the stomach and intestines was almost always pale or natural in colour. There was never general redness. The villi were almost always unusually distinct, appearing tumefied, and whitish opaque. Bile was almost always present in the gall-bladder.

The kidneys were not remarkably altered, often flaccid, without their usual odour, and in three cases presenting, when cut, a peculiar smell, somewhat like that of molasses.

There was no constant relation between the state of the heart, fluidity of the blood, and duration of the disease. Toward the close of the epidemic, the coagula were less abundant and firm, and ecchymoses on the heart were more rare than in the earlier periods.

Rigor mortis, and post-mortem contractions, existed in every fatal case.

The College of Physicians of Philadelphia appointed a committee to examine the condition of the intestines in cholera. This committee felt that ordinary examinations, by the eye alone, had yielded no satisfactory information. They determined "that the intestines, before being submitted to examination, should be finely injected, and subsequently inspected with the microscope." This was done by Dr. John Neill. He employed turpentine coloured with vermilion. The committee observed the development of the Peyerian and solitary glands, and dryness of the peritoneum and other serous membranes, which have already been noticed. Among their additional results are the following. The epithelial layer of the intestinal mucous membrane was, in all the specimens, either entirely removed, or was detached, adhering loosely as a pulpy layer, mixed with mucus, or an albuminoid substance. The villi were denuded of the epithelial covering, but unchanged in other respects. The capillary vessels were entire and normal. In no instance was a vesicular eruption observed.

The question arose, after this committee had presented its report, whether this removal of the epithelium were characteristic of the disease, and whether it did not depend merely on maceration in the profuse liquids after death, as suggested by Dr. Gairdner of Edin-

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burgh. Among the reasons which might be urged against this latter belief, the following, suggested in the Boston Report, is worth inserting here. "The mucous surfaces of the vagina and of the urinary bladder are invariably smeared with a thick, whitish, pasty, or creamish secretion, which, on microscopic examination, is seen to consist entirely of detached epithelium cells, mostly perfect in shape, and generally distinctly nucleated. But *these* passages have not been subjected to maceration. The urinary bladder, indeed, is completely empty."

The committee of the College of Physicians was continued, and requested to examine the same mucous membrane in other diseases besides cholera, for the purpose of comparison.*

Serous Effusion in the Cavity of the Arachnoid.—Dr. Austin Flint has contributed very valuable observations on "Serous Effusion within the Arachnoid Cavity." This affection has received but little notice for some years past, attention having been more fixed upon effusions in the ventricles of the brain. As autopsies are usually conducted, it is easily overlooked. The precautions to be observed are these: not to divide the dura mater with the head dependent, but somewhat elevated; to remove the brain from the cranium before section of its substance, and without rupture of the investing arachnoid, allowing the sub-arachnoidean fluid to escape, and to remove it quickly after severing its connection with the medulla spinalis, endeavouring to estimate the quantity of blood and serum which escapes from the divided extremities. It is best to remove all above the tentorium before dividing this latter membrane, and afterward to remove the cerebellum. The fluid in the cavity of the arachnoid will be found at the base of the skull, and within the spinal canal. When morbid, its quantity may vary from half an ounce to six or more ounces; it may be translucent, made more or less opaque by the mixture of fibrin; or bloody from hemorrhage, or by the escape of blood from vessels divided during the examination.

This fluid during life will settle toward the spine, and first cause pressure on the medulla oblongata, producing early derangement of respiration and deglutition. Cases are quoted where these symptoms co-existed with effusion of blood in the neighbourhood of the medulla oblongata, and in some of which death evidently began by

* Transactions of Coll. of Physicians of Philadelphia, Dec. 4, 1849, page 35.

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the failure of respiration, the heart continuing to act after breathing had ceased. Dr. Flint relates twelve observations of his own. Eleven of them were examined after death, and serous effusion was found in the arachnoid. In nearly every instance where the symptoms were known, respiration had been deranged, being "laboured," "hurried," "stertorous," "accelerated," "irregular," &c.

The propositions which we give below in a condensed form are considered by Dr. Flint as sufficiently sustained to deserve investigation.

Effusion in the arachnoid cavity, at the base of the brain, is liable to occur as an incident in the course of various affections, being immediately produced by cerebral congestion, and without premonitory symptoms from which we can predict it.

It is not an unfrequent cause of sudden deaths, such as are ascribed to cerebral congestion, or effusion within the ventricles.

It produces death by apnœa, from pressure on the medulla oblongata.

Among the means of distinguishing this affection are these: "Somnolency, or coma, without paralysis, not preceded by the symptoms of meningitis; disordered respiration; deglutition lost or impaired; intellect not disordered, if the patient is susceptible of being roused; forces carrying on the circulation not affected in proportion to the disturbance of respiration and deglutition; the *sudden* development of grave cerebral trouble, and rapid tendency to a fatal result by apnœa."

The gravity of the symptoms, the danger, and the suddenness of death will depend on the rapidity of effusion, as well as on the amount of fluid.

Insolation, or sun-stroke, when fatal, probably produces this effusion.

The presence of fluid in the arachnoid cavity, producing grave symptoms by compressing the medulla oblongata, is almost necessarily fatal; and it is doubtful if much can be expected from treatment.*

New form of Cerebral Disease.—Dr. L. V. Bell, the skilful Superintendent of the McLean Hospital for the Insane, at Somerville, Mass., has described a form of cerebral disease often witnessed in hospitals for the insane, which, though generally passing for

* For the details of these very interesting cases, see Buffalo Medical Journal for April, 1850, vol. v. page 633; also for May, 1849, vol. iv. page 744.

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acute mania, really differs from that and every other affection of the brain, and may be easily recognized after being once noticed. It is marked by the following peculiarities: It attacks abruptly, and generally within a week compels a resort to the hospital. The want of sleep has then become extremely urgent. There are no signs of undue arterial action in the pulse. The delirium is suspended for a moment or two by an effort of attention. There is a loss of appetite and loathing of food, accompanied with the idea of its being poisoned or filthy. The hallucinations are characterized by an indefinite sensation of distress and horror, and the patient is not easily soothed by management, as in other cerebral affections. Although resembling at first sight the advanced stages of typhoid fever, especially in its delirium, it has none of the characteristic external marks of this disease. It is for the most part fatal, and runs its course, whether to death or recovery, in three or four weeks. It differs from mania in the following particulars. The mental disturbance is rather the delirium of bodily disease than of mania. The loss of appetite, want of sleep, and especially the sudden loss of strength, are seldom witnessed together in mania. The rapidity of its course, too, may be considered as a diagnostic symptom. It is distinguished from delirium tremens by the absence of the cause; by the character of the hallucinations, which are indefinite impressions of personal danger and sinfulness, rather than serpents, devils, sheriffs, vermin, &c.; by the absence of the pathognomonic perspiration of delirium tremens; and by the fact that the latter is limited to eight or ten days, generally terminating in recovery after a long and refreshing slumber. From meningeal inflammation it differs, in wanting the pulse of inflammation, in the absence of pain in the head, of intolerance of light, and of high raving delirium, all which are usually present in meningitis. The only treatment which seems to promise relief, consists in opium, and the alcoholic and diffusible stimuli, liberally used.*

Etherization in Insanity.—Ether was administered to sixteen patients in the Utica Asylum, in 1847, with no very definite result. A few were highly excited by it; several seemed intoxicated, and said they felt as if drunk; one rested remarkably well the next night; two experienced no effect of any kind from it; some were decidedly improved by it, were "more active, cheerful, and sociable." Dr.

* American Journal of Insanity, October, 1849.

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Ray, the accomplished Superintendent of the Butler Hospital, Providence, R. I., has administered it in about a dozen cases, chiefly recent, and all characterized by considerable excitement. Usually the effect was only a temporary diminution of the excitement. In one case, it disposed the patient to take food, which she resisted before, and thus prevented the necessity of using the tube. In another, with suicidal and homicidal disposition, accompanied with great restlessness and vigilance, it was given every night at bedtime for about three weeks, with the effect always of procuring a quiet night.*

The experience of Dr. Bell, at the McLean Hospital, varies very little from the above.

Causes of Idiocy.—The Committee have been favoured with a communication from Mr. J. B. Richards, Principal of the School for Teaching and Training Idiots at South Boston, Massachusetts. It furnishes an account of the causes of idiocy, as illustrated by the investigations recently made under the auspices of that State. Out of 403 cases of idiocy, 302 were congenital; a fact which throws the responsibility of the existence of three-fourths of the cases directly on the parents. "And may we not inquire, with a great deal of emphasis, would not the condition of the remaining 101 have been greatly modified had their parents observed the laws of health, as *every parent* should do who takes the responsibility of bringing a human being into existence?"

Believing that idiocy results in a great measure from a low condition of the parents' vital forces, Mr. Richards enumerates the following agents which produce this condition; alcoholic drinks, licentiousness in all its forms, gluttony, exhaustion by too great mental or physical labour, weakness resulting from the want of sufficient mental or bodily exercise, low and insufficient diet, unhealthy occupations.

The following table contains important details, though the assumed connection between the idiocy and many of the circumstances named as causes must be very uncertain.

* Communicated by Dr. I. Ray.

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Cases of Idiocy resulting from but one perceptible cause.

FIRST.—CONGENITAL IDIOCY.

One or both parents intemperate	38
" " simpletons	22
" " puny	26
" " scrofulous	61
" " related by blood	15
" " debilitated by previous licentiousness	2
Mother attempted abortion	5
" frightened during gestation	4
" insane	2
	175

SECOND.—IDIOCY NOT CONGENITAL.

By his or her own intemperance	8
" " " self-pollution	35
" epilepsy	20
" fever	3
" blow on the head	4
" violence at parturition	3
" dosing with laudanum for several years	3
" violent strangulation	2
" derangement of catamenia	1
Insanity, supervened idiocy	6
Measles	1
Head stuped in hot rum, by a nurse, when three days old	1
	87

Cases of Idiocy resulting from more than one perceptible cause.

FIRST.—CONGENITAL IDIOCY.

One or both parents intemperate and idiotic	8
" " " scrofulous	25
" " " related	1
" " " mother attempted abortion	1
" " " related and idiotic	1
" " " licentious	4
" " simpletons, scrofulous, and lived on low diet	1
" " " and mother a prostitute	1

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One or both parents puny, and relations insane or idiotic .	8
" " scrofulous and relations insane . .	1
" " " mother attempted abortion	1
Parents related by blood and idiotic	9
" " scrofulous	8
" " " and intemperate .	5
" " mother frightened during gestation	1
Mother a prostitute and father married to cure masturbation .	1
	71
Cases of congenital idiocy; cause not known	56
" idiocy not congenital; cause not known	14
	70*

Neo-macropia.—Professor C. Dewey describes a kind of abnormal vision which had hitherto been unnoticed. It does not consist in being near-sighted or far-sighted. Near and small objects, or larger distant objects, are not seen with distinctness. This defect occurs in children and young persons, and is remedied by convex spectacles, which are suited to the eyes of persons from sixty-five to seventy years of age. At the age of forty-five or more, it is much diminished. The causes of this peculiar kind of vision may be, 1st. Too little convexity of the crystalline lens. 2d. Its position too near the retina. 3d. Its too little density. Professor D. regards the second as the probable cause. More than fifty cases have fallen under his notice, during the past five or six years, in New England and New York.†

Spontaneous Hydrophobia.—A case of spontaneous hydrophobia is reported by Dr. Condie. A man, aged 35, of temperate habits, who could recollect no severe sickness except a short convulsive paroxysm several years ago, was attacked, on the morning of August 28th, with stiffness along the left side of the neck, and a sense of numbness in the arm of that side, which did not yield to appropriate treatment. It was followed by pain extending from the occiput along the left side of the neck and body, thirst, a sense of suffoca-

* Most of the facts in these tables I have been able to gather from some "field notes," made by Mr. Enos Stevens, for the commissioners appointed by the governor and council of this State, in the winter of 1846, "to inquire into the condition of the idiots of the commonwealth." J. B. R.

† Silliman's Journal.

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tion, and convulsions on attempting to drink, and next day the fully developed symptoms of hydrophobia. "He declared that he had never been bitten by a dog, nor had for the last eighteen years received any wound or contusion. Upon a minute examination of his body, no cicatrix could be discovered." He died on the morning of the 30th. No autopsy could be had. "It was unquestionably a case of spontaneous hydrophobia," says Dr. Condie.

Angina Pectoris.—Dr. S. Kneeland, of Boston, has contributed an able monograph on the subject of angina pectoris. It brings the late physiological researches of Longet, Reid, and other eminent European observers to bear on the question of the pathology of this disease; and by a careful and thorough investigation establishes these propositions:—

"1. From the symptoms and morbid appearances, angina pectoris is not a disease of the lungs, heart, and its vessels, or stomach; but an affection of the nerves supplying these organs.

"2. Anatomy, physiology, and pathology would lead us to place the seat of angina pectoris in the par vagum, and not in the sympathetic system of nerves.

"3. Like other nerves, the par vagum may be affected with neuralgia and rheumatism; with inflammation; it may be compressed by morbid growths; its spinal origin may be compromised by hemorrhage, accidental wounds, and various irritations, all of which may cause the symptoms of angina pectoris.

"4. Angina pectoris and asthma are intimately related; the former being an affection more especially of the sensitive filaments of the par vagum, and the latter an affection of its motor filaments. Both are generally more or less combined in the same case.

"5. Angina pectoris is a disease not necessarily fatal, especially in young persons, if accurately diagnosticated and properly treated.

"6. In addition to the remedies of the books, special attention should be given to the inhalation of oxygen, and to the use of electricity.

"7. In cases of angina pectoris, attention should be directed to the examination of the par vagum, from its origin to its terminations, which, doubtless, on careful examination, will exhibit lesions sufficient to account for a fatal result."*

* American Journal of Medical Sciences, Jan. 1850, p. 43.

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Cerebral Symptoms in Heart-Disease.—It is well known that several English writers have, within thirty years past, pointed out the occasional connection of acute cerebral symptoms with lesions confined to the heart or pericardium, and the error in diagnosis which has frequently been made during life. Dr. Flint relates a case of pleuro-pneumonia complicated with pericarditis, masked by delirium, which is interesting in this connection. The cerebral symptoms appeared earliest; the pulmonary disease, when its existence was ascertained, was very naturally considered as secondary; and the cardiac disease was masked. The report is followed by very acute and candid remarks, suggesting the practical importance of correct discrimination in these deceitful cases, and of physical exploration of the thorax, even though there are no pulmonary symptoms.*

Dr. D. J. C. Cain has invited attention to another connection between cerebral and cardiac disease. He refers to eight cases before published, and adds one observed by himself. In all, there were repeated attacks resembling apoplexy or syncope, without paralysis, with the pulse permanently slow, but becoming still slower after each attack. In Dr. Cain's case, the pulse was thirty-four, and for a day or two, after each fit, as low as twenty-eight. The anatomical lesions were such as to impede the action of the heart, and prevent the brain from receiving a due supply of blood—for instance, atrophy or degeneration of the heart, patency of the aortic valves, and, in Dr. Cain's observation, compression of the heart and great vessels by three and a half pints of fluid effused in the pericardium, with softening of the ventricular walls.

Dr. Stokes ascribes some influence in producing these symptoms to congestion of the brain, either from increased impulse or mechanical obstruction to the return of blood. Dr. Cain argues, very conclusively, we think, for the view named in the above paragraph—from the feeble appearance of the patients, the feeble action of the heart; from the absence of characteristic apoplectic symptoms, the short duration and frequency of the attacks, the good effects of a recumbent position and of stimulants, and the inconstant and slight marks of congestion found on examination after death. One patient of Dr. Stokes' warded off attacks, on two occasions, by a peculiar manœuvre: "As soon as he perceives symptoms of an approaching attack, he directly turns on his hands and knees, keeping his head

* Buffalo Medical Journal, Feb. 1850, page 505.

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low, and by this means often averts what would otherwise end in an attack." The inference can hardly be avoided that these attacks are analogous to syncope, and prove fatal by the heart's failing at last to resume its action after its momentary suspension.*

Causes of Pulmonary Consumption.—Pulmonary consumption is by far the most fatal disease in the United States, producing about one-sixth or one-seventh of the deaths in the large cities along the Atlantic, from which alone we have any very reliable returns. It has been regarded too much as a disease intimately connected with certain climates; and its dependence on bad modes of living, defective nourishment, confined air, &c., has been too little recognized. In a discussion in the College of Physicians at Philadelphia, Dr. Condie remarked that, "since more attention has been paid than was formerly done to the collection of correct statistics, consumption has been shown to be the disease rather of civilized life than of locality or climate." Besides hereditary influence, he names, as causes of this disease, "long-continued sedentary occupations, indoor confinement, particularly in narrow, ill-ventilated apartments, insufficient nutriment, close mental occupation, unbroken by relaxation and active exercise, anxiety of mind." When the great frequency and almost uniformly fatal course of this disease are duly considered, it must be acknowledged highly important that physicians understand correctly its causes. Especially ought the fact to be borne in mind that its causes are not inseparably associated with the temperate climates, but may be more or less completely controlled by prudence, philanthropy, and science.

Dr. Riofrey, of Paris, author of a work on the curability of consumption, agreed with Dr. Condie as to the importance of hygienic treatment, compared with any medicine.† At a meeting of the National Institute, Dr. Riofrey mentioned that he considered a high northern or southern latitude alike favourable in cases of predisposition to this disease. He named the American coast, from lat. 55° north to 17° south, as consumptive latitudes. Several facts were alluded to, which appear to confirm the belief that a moist air tends to lessen the liability to consumption.

Intestinal Auscultation.—Professor C. Hooker, of Yale College, has published an essay on Intestinal Auscultation, founded on more

* Charleston Medical Journal and Review, May, 1849, page 271.

† Transactions of the College of Physicians of Philadelphia, Nov. 20, 1849.

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than twenty years' attention to the subject. The loud sounds of rolling liquids in the bowels in Asiatic cholera were noticed in a published article by Dr. Hooker, in 1833. These sounds were noticed during the past year by many who had not seen this article. This commotion was increased by stimulants and astringents, and by opium given in doses not large enough to cause alarming prostration. Frequent small doses of camphor, with the free use of ice, moderated it. A single drachm dose of calomel almost invariably caused a total suspension of these movements, producing intestinal silence and repose, usually for eight to twelve hours, followed by natural peristaltic murmur and grass-green evacuations.

Cholera morbus is usually attended with quick, irregular, peristaltic, and anti-peristaltic motions, marked by sounds different from those of Asiatic cholera. The differences of sound are of course not so easily described in words as appreciated by the ear.

Common colic has an incipient, forming stage, during which the physician is not often consulted, but which may be recognized. There is general languor, often some depression and chilliness, and numb, heavy, or cold feeling in the abdomen. Now this important stage may be known by the utter absence of peristaltic murmur in the small intestines; a little rumbling being heard perhaps from the large intestine. During the violent symptoms, peristaltic motion is still suspended. Anti-peristaltic sounds, or some sound from the pressure of the abdominal parietes producing momentary movement, may be heard, but very transiently. But true peristaltic movement, producing a continuous murmur, is a sign of approaching relief. In lead-colic, the suspension is longer continued, and yields not all at once, by a sudden crisis.

These signs may aid us in prognosis, and in determining whether medicines are required in cases of colic, diarrhœa, &c. They may forewarn the physician of the approach of an attack, before the patient is apprised by any decided symptoms, as the physical signs in thoracic diseases sometimes enable us to foretell an affection that does not yet reveal itself by rational signs.*

Dr. Breed, of the Cambridge Laboratory, with a view to ascertain the influence of evaporation and pressure upon the formation of blisters, made a series of experiments with plasters of cantharides, with hot water and steam, of which the following may be recorded:—

1st. Two fingers were held in boiling water about three seconds.

* Boston Medical and Surgical Journal, July, 1849, page 409.

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One was immediately dressed with oil (oleum olivæ), and the other left exposed to the air. On retiring five hours after, there being but little soreness, the dressing was removed, under the belief that there would be no blister. In the following morning, however, both fingers were blistered over the entire scalded surface, and they were equally sore.

2d. With the intention of quickly producing a blister, two fingers were held in water at 212°, during fifteen seconds. The water was then cooled by adding cold water, that the fingers might be kept immersed. One finger was covered, while yet in the water, with oil and cotton, and well wrapped. The other was withdrawn from the water without dressing, and exposed to the atmosphere. After several hours, a blister filled on each finger; first, however, on the one which was dressed.

3d. Two fingers were exposed to water at 212° during ten seconds. One was immediately put in a caoutchouc bag filled with water, and the other was left exposed ten hours, and then slightly wrapped in linen. In five hours, the exposed finger was blistered along and within the margin of the part scalded. On the central portion of the affected part no blister rose. In eight hours, a blister rose on the other finger large enough to be distinctly felt through the caoutchouc. After thirty hours the bag was removed, revealing a blister, as thick as the finger itself, over the entire scalded surface. The skin not scalded, and yet covered by the caoutchouc, was much corrugated and white. An hour after the scalding in this case, upon drinking freely, the pain in the fingers was greatly increased.

4th. Two places on the arm were exposed to steam at 212°, one three and the other ten seconds. The former was merely covered by the ordinary clothing, and to the latter was applied a linen compress and a tight bandage. The spot to which no pressure was applied soon blistered and became very sore. Upon the other, the pressure was continued sixty-nine hours with removal every twelve hours for examination. In this place, there was no blister and but little soreness after six hours. The part remained white from the first until the cuticle began to dry and become dark coloured.

5th. A good blister plaster (emplastrum cantharidis) was placed upon the arm, covered by a large, wet poultice, and a bandage applied over these so as to produce considerable pressure. No blister was produced in twenty hours, but on removing the poultice a blister quickly filled.

6th. Emplastrum cantharidis was applied to the side and more

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tender part of the finger, and a caoutchouc bag filled with water, then drawn over the finger so as to exclude the air and prevent cutaneous evaporation. After forty-nine hours the finger was examined, but there was no blister. Washing the finger, it was again placed in the bag of water for twenty-six hours. At the end of these seventy-five hours, the dressing was finally removed. No blistering was produced, but there was slight soreness twelve hours after the water was removed.

7th. A blister plaster was applied to the side of the finger and covered with caoutchouc, making some pressure. In twenty hours there was considerable soreness, but, at the end of fifty-three hours, the removal of the plaster showed no blister. Hastily washing the part, the bandage was reapplied and allowed to remain forty-eight hours longer, with removal every twelve hours, to examine and wash the finger. No blister was produced.

The conclusions derived from these experiments are:—

1st. That evaporation is not essential to the formation of a blister.

2d. That a certain degree of pressure will prevent the formation of a blister.*

Do all these causes act to separate the cuticle from the true skin? Upon the separation the serum is poured out, filling and distending the cavity and forming a blister.

The following inquiries have suggested themselves.

Does a proper degree of pressure prevent the formation of blisters by preventing the effusion of serum?

Does oil, when rubbed on the locality of a scald or burn, retard or prevent a blister by its being absorbed, and as oil and water will not unite, thus opposing the flow of serum?

Does cold water, by contracting the minute vessels, obstruct the flow of serum?

Do cold water, ether and turpentine relieve pain by so reducing the temperature that the chemical decompositions incident to the burn, and which are concomitants of the pain, are arrested?

May the cold water when taken in by endosmosis, aid to restore the injured part by dissolving, and thereby promoting the absorption and removal of the destroyed organism?†

* Blisters may be produced by pressure and friction, such as takes place in pumping with hands unaccustomed to this kind of labour, by sudden extreme cold, as with solid carbonic acid, or intensely cold metal, or heat, in a great variety of ways, from either solids, liquids, or vapours, and by rapid evaporation according to Liebig.

† Communicated through Dr. John B. S. Jackson.

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Urinary Calculi.—Professor Peter, of Transylvania University, has formerly published valuable observations on the chemical characters of urinary calculi. During the past year, he has published analyses of calculi recently removed by lithotomy from seven different patients. In two calculi, the nucleus was mainly oxalate of lime, surrounded by the phosphates of lime, magnesia, and ammonia; in one, oxalate of lime, covered with a thin coating of earthy phosphates. In two single calculi, and two pairs (coming each from a single person), the nuclei were mainly urate of ammonia, containing in each case, except in one pair, some oxalate of lime, either mingled or imbedded with the deposit which formed the nucleus; the exterior contained oxalate of lime, and earthy phosphates.

Professor Peter's former article in the *Western Lancet* gives a view of the composition of calculi in the large collection of Transylvania University, compared with that of several contained in European collections. "The peculiarities of the Lexington collection, as compared with the others whose history we have been able to learn, are as follows:—

A. *As it regards the nuclei.*

"1. A great deficiency in the proportion of pure uric acid.

"2. A great excess in the proportion of nuclei of urate of ammonia, and of the earthy phosphates.

B. *In relation to the general composition.*

"The same peculiarities pointed out in regard to the nuclei, with the additional one,

"3. An excess in the proportion of the mulberry, or oxalate of lime calculus."

There was but one case of pure uric acid calculus from the blue limestone region, where the water is strongly impregnated with carbonate of lime.

The newly-reported analyses are cited as confirming former researches as to the chemical character of urinary concretions in the great blue limestone district.

Urate of ammonia is often found deposited even in the tubuli uriniferi of new-born children. It is soluble in about 480 parts of cold water, and still more freely in hot water, and can only be deposited when the urine contains less than its normal quantity of water, in proportion to the salts. When deposited, it forms a

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nucleus, round which an impermeable coating is easily formed of oxalate of lime, or the earthy phosphates, preventing its solution in the urine. The free use of *pure* water, and watery, succulent food, is recommended as a preventive of this disease, as well as of gout, and other affections in which there is too much saline matter in the animal fluids.*

Dr. J. Neill has reported an interesting case of renal calculi, in a girl twelve years old. The calculi were composed of phosphate of lime, were extensively branched, occupying the pelvis and infundibula of the kidneys, white, shining, and crystalline in appearance. They weigh five hundred and ten grains. The organs were enlarged, their cavities distended with albuminous and puriform liquid; and their parenchyma so thinned and altered that the glandular structure could not be well distinguished. The child had suffered from incontinence of urine for three years or more; her urine had been albuminous; she had been thin and pallid. Before death, she had several attacks resembling fits of gravel, but was running about the second day before she died.†

A paper of much surgical interest, by Dr. J. Mason Warren, of Boston, mentions the composition of calculi in six cases which occurred in his practice. Two consisted mostly of oxalate of lime; in one, combined with uric acid, and a small quantity of carbonate of lime; in one, surrounded by the triple phosphate, in sharp and glittering crystals. Three would appear to have been composed of phosphates. We are left to suppose that the above-named cases originated in or about Boston. One patient was from Montgomery county, New York. He had a calculus of very rare kind, consisting of *cystic oxide*, intersected by layers containing phosphates.‡

In the Museum of the Boston Society for Medical Improvement, there are twenty-two specimens of urinary deposits from different human beings, whose composition is named in the very valuable "Descriptive Catalogue." Most or all these patients appear to have been residents of New England, three specimens furnished by Dr. Flint, of Kentucky, being not counted. Their composition in the main was as follows: Of uric acid, five, in one surrounded by thin layers of oxalate of lime, and the mixed phosphates. Uric acid and the urates, three. Urate of ammonia, one. Uric acid nucleus and mixed phosphates, two. Urate of ammonia and mixed

* Transylvania Medical Journal, Dec. 1849, and Feb. 1850.

† American Journal of Medical Sciences, July, 1849, page 120.

‡ Ibid., page 47.

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phosphates, one. Nucleus of urate of ammonia and uric acid, surrounded by mixed phosphates, one. Uric acid and urates of potash and ammonia, with mixed phosphates, uric acid being in excess in the nucleus, one. Urate of ammonia and oxalate of lime, one. Phosphate of lime, two; being partially covered in one by a brown crust of *xanthic oxide*. Mixed phosphates, two. Oxalate of lime, two; in one having a thin, uniform coating of uric acid. Oxalate of lime nucleus, surrounded by mixed phosphates, one.

Besides the above twenty-two, there are in the same museum three calculi presented by Dr. Joshua B. Flint, of Louisville, Kentucky. All contain phosphate of lime; combined in two with uric acid, urates, and animal matter, in the third, with one-tenth of carbonate of lime.

We would beg leave to commend to our successors this inquiry into the connection of different urinary deposits, with the geological characters of different parts of our land. No civilized country offers so wide a field for such comparative research. No body of medical men could so appropriately undertake it.

VITAL STATISTICS.

Causes of Mortality in Children of the two Sexes.—It is well known that the number of male children at birth considerably exceeds that of female children. But this preponderance of males is soon lost by reason of their greater mortality; so that the numbers of the two sexes living at the age of ten years are very nearly equal; and at the fifteenth year the living females outnumber the males about as much as the males did the females at birth.

The greater mortality of boys has been attributed to their greater exposure, and more hazardous sports and employments. But it appears that the greatest excess in the male deaths occurs in the very early months of infancy, before any material change has taken place in the exposure of the sexes to external circumstances. In older children, the greater risks of boys in climbing, swimming, &c., are nearly, if not quite, counterbalanced by the greater exposure of girls to burns and scalds.

If the particular diseases which prove fatal to children be examined, it will be found that those of males are inflammatory affections of the organs of respiration, circulation, and nutrition, but more especially inflammations of the brain and appendages, with the ordinary consequences, serous effusions and convulsions.

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On the other hand, the principal diseases of which female children die in greatest proportion are hooping-cough, small-pox, scarlet fever, measles, thrush, and consumption. Thus, the diseases most fatal to male children appertain to the sthenic class, and are those usually characterized in their incipient stages by excessive inflammatory action, prone to attack subjects in whom the energies of life are most highly developed; while the diseases to which female children succumb in largest proportion are allied to the *asthenic* class, being most liable to prove fatal where the forces of organic life are comparatively feeble, and having their seats mostly in the mucous and cutaneous tissues.

In connection with this view of the subject, it may not be deemed improper to mention some of the fatal diseases of male and female children under five years, in a large mass of European reports, and their relative proportions in each sex.

	Males.	Females.
Inflammation of the brain	328	281
Convulsions	2550	2081
Dropsy of the brain	1481	1151
Inflammation of the lungs	2659	2411
Croup	343	303
Inflammation of the stomach and bowels . .	489	376

In these diseases, there was a greater or less preponderance in the male mortality. On the other hand, some of the diseases most fatal to female children were the following:—

	Males.	Females.
Hooping-cough	1115	1445
Small-pox	232	240
Consumption of the lungs	967	920
Thrush	208	206
Measles	1048	1020

The number of female deaths from the three last diseases is not quite so great as that among males. But it is decidedly greater in proportion to the number of girls living under five years of age.

These statistical results, while they correct the common error of ascribing the excessive mortality of male children to their greater exposure to casualties, the weather, &c., show that the main cause is to be sought for in sexual differences of organization, each sex being endowed with peculiar physical characteristics, which tend, even at this early age, to develop certain diseases and determine

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their results. These facts, beside being curious, suggest hints as to the medical treatment of children. The prominent fact that boys are more prone to succumb to diseases of high inflammatory action must surely demand more particular attention to discrimination in the treatment of their diseases, and the adoption of more prompt and energetic measures for reducing these exalted actions which tend to disorganization and death.

On the other hand, with patients of the female sex, even in infancy, increased caution should be observed to guard against the effects of debility, and provide timely support to the more feeble resources of the female system.

Influences operating to Change the Number of Births, and also the Proportion of the Sexes at Birth.—1. The seasons. The following general results relative to this point were obtained from estimates based upon 65,542 births in Philadelphia. The greatest number of conceptions occurred during the winter and spring months, the maximum being 17,645 in the spring months. The smallest number occurred in the summer and autumn months, the minimum being 15,200 in the summer quarter.

The greatest excess of male conceptions is shown in the winter season, when, the total being 17,184, the males were 9,007, and the females 8,177. The excess of male conceptions for the other three quarters or seasons varies but little from the minimum excess, which occurs in spring.

2. The plenty or deficiency of food, purity or impurity of the air, overworking, and whatever tends to exalt or to impair the vital energies of the people. In many parts of Europe, where the general population is overworked and under-fed, the excess of male births is very small; being throughout France and Prussia under 6 per cent., and in England about 5 per cent. In Philadelphia, where the general condition of the population is very favourable, the male births exceed the female about 7 per cent. In the rural districts of the United States, and especially in the newest settlements, the preponderance of boys at birth is believed to be not less than 10 per cent. An opposite result is found when fatal epidemics alarm and depress the public mind. Thus, children born in Philadelphia, whose conception occurred during the prevalence of cholera in 1832, show a preponderance of females. The same results are shown in the births at Paris, which took place nine months after the epidemic prevailed there in 1832. The births at a somewhat longer period after the

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visitation of an epidemic, exhibit an increase in the amount of males, because the parents are endowed with vital energies above the average, as is shown by their exemption or recovery from disease.*

TOXICOLOGY AND MISCELLANEOUS MATTERS.

Mode of Action of Poisons.—Professor James Blake, of the St. Louis University, has continued his experiments, illustrating the mode of action of poisons. It is well known that this gentleman has maintained, by experiments, the doctrine that the most rapidly fatal poisons act only by being absorbed into the blood, and that the nerves are incapable of propagating their action from the part to which they are applied, so as to produce the constitutional symptoms.† The question of absorption he regards as a simple one; we must ascertain the time required for a poison to be conveyed by the blood from one part of the system to another; and this fundamental point seems heretofore to have been neglected by experimenters upon the subject. Dr. Blake has shown that the blood circulates through the body from the jugular vein in from four to sixteen seconds, in the animals experimented upon; and in no instance was the action of the poisons manifested in less time than would suffice for their distribution through the system. Dr. B., then, does not believe that poisons act instantaneously, however strongly this doctrine has been supported; and he makes some remarks which are well worthy the attention of the physiologist, in regard to the liability to error in noting small intervals of time.

One principal object in Dr. Blake's paper seems to be to answer the criticisms of Dr. Christison and Mr. Taylor on his experiments published some years ago. He shows that animals, whose circulation is very rapid, are unfit subjects for observation. The nature of the poison must also be attended to, a volatile substance applied to the mouth being, perhaps, inhaled so as to produce effects before the experiment has properly commenced. Both these points had been apparently overlooked by Christison and Taylor. Finally, Dr. Blake, after referring to some of his late experiments, which only confirm those already published, concludes by an account of an experiment which was admirably contrived to show in how short a time death would ensue from that most volatile substance, concentrated hydrocyanic acid. A rabbit, whose blood circulates through the

* Communicated by Dr. Gouverneur Emerson, a member of the committee.

† See Edinburgh Med. and Surg. Journal, vol. liii.

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body in four seconds, was selected; the jaws were kept open with forceps; about half a drachm of the acid was enclosed in a well stopped tube, to prevent its being inhaled; the tube was placed in the mouth; at a given signal the forceps were closed, the tube was crushed, and the animal, having jumped from the table on to the floor, was perfectly able to stand upon its feet; in two seconds and a half after the application of the poison it fell on its side, and in five seconds it was dead.*

Poisoning by Cedar Oil.—Dr. S. C. Wait reports four cases of poisoning by cedar oil, the oil of Juniperus Virginiana. They prove that this substance is a powerful narcotico-acrid poison, having more decided effect on the whole nervous system than is usually ascribed to savin, to which it has been considered as allied. All the four patients were females, and three of them took the oil to procure abortion. The symptoms ensued very soon after taking the poison; they were violent pain in the stomach; convulsions, both rigid and intermittent; eyes glaring; face red and contorted; moans or peculiar and frightful groans; respiration struggling and catching, with exaggerated action of the inspiratory muscles; pulse slow and large. Somnolence soon ensued. In the two that recovered, reaction was established within a few hours, followed by fever. In one case, delirium, dizziness, distress at the stomach, and general soreness. In the two fatal cases, the somnolence was followed by coma, dilated pupils, breathing more laborious, and at times stertorous, complexion of a venous hue, pulse growing slower and then intermittent. Death ensued in each case about an hour after the poison was taken, if the physician's narrative be quite accurate in this point. There were small patches of redness on the mucous membrane of the stomach, and larger portions which had lost the "usual polished appearance." The oil was smelt in the secretions during life, and in the stomach after death. It is to be regretted that the autopsies were not conducted or recorded more fully and accurately. Besides emetics and frictions, twelve or sixteen ounces of blood were drawn in the two cases which occurred last in time, without important effect; one of these cases was fatal, one recovered.†

* American Journal of Medical Sciences, July, 1849, page 97.

† Report by Dr. S. C. Wait, of Gouverneur, St. Lawrence Co., N. Y., Boston Med. and Surg. Journal, July, 1849, page 469.

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Effects of Strychnia and Hydrocyanic Acid.—A large black bear, belonging to Professor Agassiz, and about eighteen months old, was poisoned by strychnia and hydrocyanic acid. Three grains of strychnia were first given; in ten minutes, another dose was offered in a biscuit, but was not swallowed. In five minutes more, terrible convulsions ensued, and the animal died within twenty-five minutes after taking the strychnia. Hydrocyanic acid was poured on its nose and mouth to hasten death. Though the bear had appeared in good health, decomposition was very rapid, being as advanced in appearance within twenty-four hours as if the animal had been dead two months. About twenty hours after death, the body being still warm, an offensive gas was issuing from every pore. The blood had not coagulated, the spinal marrow and nerves were in a semi-fluid state, and the flesh had assumed a leaden-gray colour. The hair came out on being slightly pulled. The muscles, brain, nerves, and kidneys, all gave off hydrosulphuric acid gas, while the liver did not.

Chloroform as an Antidote to Strychnia.—Dr. Diesbach, of Tiffin, Ohio, reports a case of poisoning by strychnia, relieved by chloroform. A man drank three ounces of a solution of strychnia, containing one grain in the ounce, made from the crystals. In twenty minutes, he was found to be affected with extremely rigid spasms of the muscles, "sense of burning about the stomach, tightness about the chest, vertigo and dimness of vision, lower extremities cold, and perspiration flowing in a stream from his head and chest." He swallowed two drachms of chloroform (well diluted, we hope), and was completely relieved in less than fifteen minutes.*

Comparative Effects of different Anæsthetics.—Dr. C. T. Jackson has presented the results of observations on the comparative effects of the inhalation of nitrous oxide, the vapour of chloroform, and sulphuric ether. Nitrous oxide, administered in large doses, produces great excitement, which increases with the quantity inhaled. The vapour of chloroform, when rapidly inhaled, produces an immediate and entire prostration. The same is true, in a less degree, of sulphuric ether. They do not produce the intoxication which is caused by nitrous oxide; and this agent, also, when introduced slowly, fails to produce the usual effects. The vapour of chloroform slowly inhaled has an injurious influence, disorganizing the

* Western Lancet, February, 1850, page 93.

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blood, and stopping the circulation in the capillaries. When suddenly introduced, it retards, but does not stop, the circulation. Patients to whom it is slowly administered recover slowly, and it is important in all cases that enough air should be admitted with it. Persons inhaling nitrous oxide retain the sensibility to touch, and respiratory action is quickened, increases, and becomes deeper as the inhalation is prolonged. During the inhalation of chloroform and ether, on the contrary, the respiratory action diminishes. Under the influence of exhilarating gas, the system is made very irritable. Dr. Jackson thought that the few cases of excitement after the inhalation of ether might be attributed to the previous state of mind of the patient, or to alcohol combined with it. Conclusions drawn from experiments on animals with these agents should be received with great caution, for their action on animals differs according as these have or have not a cutaneous perspiration. It kills those of the latter class. Dr. Jackson recommends a mixture of chloroform with alcohol, in the proportion of an eighth or a quarter of an ounce of the former to four ounces of the latter.*

Effects of Anæsthetics on Vegetable Organs.—In the valuable report on the Medical Botany of South Carolina, published in the Transactions of this Association for 1849, Dr. F. P. Porcher describes some experiments similar to those of Professor Marcet, of Geneva, on the action of anæsthetic agents on what are called sensitive plants. Dr. P. experimented with the Schrankia angustata or uncinata. Chloroform and sulphuric ether, placed on the main petiole of the leaves, caused the leaflets to contract successively, and these impressions were never conveyed downward, beyond the junction of the branch experimented on with the main limb. A drop of oil of aniseed, placed on a leaf-stalk, seemed to stop the passage of these influences. "Hence," says Dr. Porcher, "we may be led to suspect that the impression is conveyed by organs of sensation arranged not far from the surface." These experiments are also thought to illustrate "the relations existing between animal and vegetable sensibility."

The experimental decisions of Professor Blake, with respect to the action of poisons in animals, in which nervous and absorbent apparatus both exist, would seem to contradict the idea of a nervous medium of transmission in organized bodies in which *no* nervous

* Annual of Scientific Discovery, Boston, 1850, page 165.

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system is known to be present. The term *sensibility* is used vaguely, sometimes as synonymous with susceptibility in general, or with contractility. But its employment in the first of these senses is purely figurative; and in the second is inaccurate. Contraction can no more be taken as evidence of sensibility than sensation can be taken as evidence of contractility. Each power has its own peculiar organic condition necessary to its exercise, and its own peculiar relation to stimuli. The fibre that feels, and the fibre that contracts, are different, and neither can officiate for the other. It is from some such equivocation as this that the mimosa and schrankia have been denominated sensitive plants; that physiologists have come to speak of illustrating the relations which exist between animal and vegetable *sensibility*, and special organs of sensation in the plant are hypothetically created.

The relation of anæsthetics to the vital powers of animals is a question yet unsolved. To which of the two, the *vis nervosa* or the contractile power, are these substances most intimately related? If they affect alike both kingdoms of life, and contractility is the only one of the two functions which is common to the animal and vegetable, then it would seem that their relation is to this; and that, in the animal, whatever influences are communicated to the nervous system are secondary. It has indeed often been observed that the effect on the muscular system precedes that on the nervous, and in some instances is the only impression which can be produced. The rationale of sudden death, accepted by many, ascribing it to paralysis of the muscular fibres of the heart, is in perfect congruity with this view.*

Action of different Waters on Lead-Pipes.—Professor E. N. Horsford was requested by the consulting physicians of the city of Boston to investigate the subject of the action of water on leaden service-pipes. We extract the most important results obtained by him.

"The waters used by man, in the various forms of beverage, and for culinary purposes, are of two classes: viz., 1. Open waters derived from rain-falls and surface-drainage, like ponds, lakes, rivers, and some springs; and 2. Waters concealed from sun-light, and supplied by lixiviation through soils or rock, or both, of greater or less depth, such as wells, and certain springs.

* Communicated by Dr. James Moultrie, a member of the committee.

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"They differ in temperature. Well-water, through a large part of the year, is colder than lake, pond, or river water. In the per centage of gases in solution: recently drawn well-water, in summer particularly, parts with a quantity of air upon exposure to the surface temperature. In winter, these relations must, to some extent, be inverted, in high latitudes for a longer, and in lower latitudes for a shorter, period. They differ in the per centage of inorganic matter in solution; well-waters contain more. In the relative proportions of salts in solution, well-waters contain more nitrates and chlorides; and in the per centage of organic matter, they contain less.

"*Relations of Lead to Air and Water.*—Lead is not oxidated in dry air, or in pure water deprived of air. It is oxidated in water, other things being equal, in general proportion to the amount of uncombined oxygen in solution. When present in sufficient quantity, nitrates in neutral waters are, to some extent, reduced by lead. Both nitrates and chlorides promote the solution of some coats formed on lead. Organic matter influences the action of water on lead. If insoluble, it impairs the action by facilitating the escape of air; if soluble, by consuming the oxygen in solution, and by reducing the nitrates when present. The green plants, so called, and animalculæ which evolve oxygen, are abundant in open waters in warm weather only, and of course when the capacity of water to retain air in solution is lowest; so that, though oxygen is produced in open waters by these microscopic organisms, it does not increase the vigor of their action on lead. Hydrated peroxide of iron (iron-rust) in water is not reduced by lead. Hence may be inferred the freedom from corrosion of leaden pipes connected with iron mains, so far as the reduction of the pulverulent peroxide of iron may influence it. Alkaline chlorides in natural waters deprived of air do not corrode lead. Salts generally impair the action of waters on lead by lessening their solvent power for air, or for other salts. A coat of greater or less permeability forms in all natural waters to which lead is exposed. The first coat is a simple suboxide absolutely insoluble in water, and solutions of salts generally. This becomes converted in some waters into a higher oxide, and this higher oxide uniting with water and carbonic acid forms a coat soluble in from seven thousand to ten thousand times its weight of pure water. The above oxide unites with sulphuric and other acids, which sometimes enter into the composition of this last coat; uniting with or-

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ganic matter and iron-rust, it forms another coat which is in the highest degree protective."*

Moisture, Ammonia, and Organic Matter in the Atmosphere.—Professor Horsford presented, at the meeting of the American Association for the Advancement of Science, held in August last at Cambridge, some observations on the amount of moisture, ammonia, and organic matter in the atmosphere.

Moisture.—These observations were commenced February 28th, 1849, continued daily till April 12th, and since then occasionally, and were accompanied by observations of the barometer, thermometer, appearance of the sky, and the wind. The method employed was that of Brunner. A known volume of air is transmitted through a chloride-of-calcium tube, which is weighed before and after the experiment. The difference in weight shows the amount of moisture in a given volume of air. Among the results are these: The moisture is in general proportion to the temperature. Slight variations are not accompanied by corresponding variations in the moisture. Great variations in the quantity of moisture may take place, while the temperature and altitude of the mercurial column remain constant; the moisture has even doubled within an hour, though the temperature became reduced. In general the moisture on the same day seemed to depend chiefly on the direction of the wind. The least quantity observed was on March 12th, during a N. W. or N. N. W. wind; the largest was on June 23d, in a S. W. or S. S. W. wind. The quantity on the latter day was to that on the former as fifty to one.

The *permeability of atmospheric air to aqueous vapor* was established by experiments continued through several months, and was found to increase with the temperature.

The *quantity of ammonia* was tested by an apparatus of Professor Horsford's own construction. In contriving it, the object was to transmit the air through a constantly renewed atmosphere of hydrochloric acid vapour. A series of tubes and flasks containing asbestos drenched with hydrochloric acid were connected with a safety-tube, which was connected with an aspirator. Through this apparatus a known volume of air was transmitted. At the conclusion of the experiment, the apparatus was thoroughly rinsed with distilled water, and the ammonia determined in the usual manner with bichloride of platinum.

* Proceedings of American Academy, 1849.

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Two determinations were made during an east wind, the one on air at the end of a wharf in Boston, looking out on the ocean, the other in a court pointed out by an assistant of the city marshal, as the worst habitable part of the city, and in which the air was found to be extremely offensive. The one atmosphere was not distinguished above the other on account of its ammonia.

Continued observations, since the above mentioned were laid before the Association, have shown that the quantity of ammonia is greatest in summer, and that it diminishes with the decay of animal and vegetable matters, until, in winter, when decay is quite arrested, the quantity of ammonia is reduced to a minimum.

The following table shows the amount of ammonia found in the atmosphere at thirteen different analyses:—

Date.	Am. in 1,000,000 parts by weight of Air.
1. July 8	42.9995
2. " 9	46.1246
3. " 9	47.6308
4. Sept. 1–20	29.7457
5. Oct. 11	28.2396
6. Oct. 14	25.7919
7. Oct. 30	13.9315
8. Nov. 6	8.0953
9. Nov. 10–12–13	8.0953
10. Nov. 14–15–16	4.7066
11. Nov. 17 to Dec. 5	6.1328
12. Dec. 20–21	6.9885
13. Dec. 29	1.2171

Some very limited observations would tend to show that the organic effluvia in the air are of an acid character.*

Prof. Horsford has made some experiments to determine the amount of ammonia in the pulmonary and cutaneous exhalations of a kitten. The amount is found to be very considerable.

Determination of the Ammonia in Human Breath.—By J. A. Porter, of the Cambridge Laboratory.

$Pt Cl_2 NH_4 Cl$	Grm.	0.0645
NH_3	"	0.0049 for 45 minutes
	"	0.0072 for 1 hour
	"	0.1743 for 24 hours
	Grains	2.6898 "

* Proceedings of American Association for the Advancement of Science, 1849, p. 124.

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Ozone.—This substance has come into notice during the year past from its supposed connection with catarrhal diseases, as noticed in Europe; and with cholera, as suggested by physicians of Chicago. The nature and even the individuality of ozone are not quite determined. Professor Peter has published interesting observations on this subject. He tested the amount of ozone in the air at Lexington by the usual means, a strip of bibulous paper being smeared with a paste of starch and a solution of pure iodide of potassium. His observations were daily, from June 30 to August 12, being not far from the complete period in which cholera prevailed at Lexington. There was no constant relation between the probable amount of ozone in the air and the daily number of deaths; the indications of ozone did not cease with the cessation of cholera; and it would seem that the principle which discolors the iodide of potassium is rarely absent from the atmosphere.

Some considerations unfavourable to the supposed influence of ozone are these: Ozone is a vaporous or gaseous substance, and must tend to diffuse itself equally, which the cholera does not. If ozone is produced by electrical causes, it certainly must be present in the atmosphere of South America, which is known to be remarkably exempt from the epidemic. As the slow combustion of phosphorus produces ozone, workmen in manufactories of friction matches should suffer from the diseases produced by it. The ozone theory of cholera, on the whole, is not sustained.*

Professor Ellet made analyses of the air in New York, under the auspices of the Board of Health, during the prevalence of cholera in that city. His results were wholly negative in regard to the prevalence of any foreign matter in the air. As to ozone, he says, "I was forced to the conclusion not only that no such peculiar principle or condition existed in the atmosphere at the time, but that the experiments of those European chemists who have announced the production, by artificial means, of such a new form of matter, or such a modified or 'allotropic' condition of any of those forms previously known to us, are unsatisfactory."†

Prof. Horsford has observed that ozone, subjected to a heat of 130° Fahrenheit, loses its properties.

* Transylvania Medical Journal, Oct. 1849, p. 148.

† Report of Sanitary Committee on Cholera in New York, 1849, page 59.

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This sketch of the progress of medical science within our own country during the last year relates only to the particular branches assigned to this committee. With the latitude allowed to their predecessors, the committee could have doubled the amount of materials, many of them of the highest value and interest. They, however, cannot but approve of the restriction imposed, and recommend its continuance. European intelligence reaches most of us through periodicals and retrospects, and any reprint from them of facts, however judiciously selected, tends to enhance the expense of our publications. There is a still greater evil attending the introduction of foreign matter into our reports. It impairs the vigilance and industry necessary to the accumulation of intelligence that is purely American. In so widely-extended a country, it is a laborious task to gather materials for such a purpose. Many interesting facts must occur that never come to the knowledge of a committee, even when foreign matter is excluded, as the present report abundantly shows. Still more must this be the case when the labour of collecting domestic matter can be diminished by substituting foreign materials.

By adherence to this restriction, the future reports of American intelligence will be annually growing richer. Master minds are now employed in the various departments of natural and experimental science. Leidy and others are toiling with zeal and industry in our large cities; and Agassiz, Guyot, Horsford, and Wyman have girded themselves to the work in a scientific institution under the fostering care of ancient Harvard, whose light, like the rising sun, is gilding the east, and shedding its beams over our wide-spread country to warm and fertilize the American intellect. Already in the Valley of the Mississippi, where, within the memory of the living, the red man was lord of the domain, beautiful cities adorn the banks of the majestic rivers, with colleges and seminaries of learning where gifted minds are diffusing the blessings of science and literature; and in this lovely city, the "Queen of the West," where the Indian council-fire blazed, and war-whoop echoed, we behold the sublime spectacle of many hundred votaries of the healing art assembled from all sections of the Union, thirsting for knowledge and eager for mutual improvement. Who can contemplate the scene without a thrill of professional enthusiasm, or doubt for a moment that a rich harvest of American medical science will ere long be annually collected and diffused through the instrumentality of this Association?

USHER PARSONS, *Chairman.*

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B.

REPORT OF THE COMMITTEE ON

PRACTICAL MEDICINE AND EPIDEMICS.

THE variety and extent of the duty imposed upon this committee subjected it to several difficulties. If it professed to examine with any prospect of useful results, the broad field of practical medicine, a detail of inordinate minuteness would have resulted, alike unprofitable and fatiguing to the Association. An invidious selection, on the other hand, would have exposed the committee to charges of partiality and injustice. A mere catalogue without comment, would have been useless, and strictures would have made still more voluminous an overloaded report. For these reasons, the committee have preferred a course which, while it gives a proper limit to its action, will probably be found more conducive to the great object for which the Association has detailed its committees. Instead, therefore, of speaking of every one and everything within the scope of its nominal function, the committee will briefly notice what may be esteemed useful novelties in the theory and practice of medicine, as they belong to the current year, and as they come exclusively from American sources.

Having made such a survey, we shall examine more in detail, certain points which have at present the most absorbing interest both for the public and the profession. In executing this task we shall endeavour to introduce, not only the materials which have already appeared in various papers, reports and journals, but such new and authentic matter as may give additional novelty and weight to the present report of your committee.

A survey of the field of current medical literature, such as we have been compelled to make, displays in the most agreeable light the beneficial influence of this Medical Association. A very valuable portion of the stock of the current year, is found in papers written for, or at the instance of, local and State Associations, by members whose talent for useful observation would, but for these reunions, have been entirely lost to the public and the profession.

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Such papers, so presented, have a value much beyond their apparent worth. There is a security for their truthfulness, of unusual force. They are read to friends and neighbours, to competitors, to those who, living and practicing in similar regions, become competent judges and prepared critics. Errors are thus corrected, new facts are supplied, and the opinions go forth rather as the expression of the sense of many, than as the less weighty sentiment of a single and perhaps an unknown individual. Such papers are enforced or corrected by others upon the same or conterminous subjects, from members of the same Association, to whose attention the subject is probably directed by those casual debates which not only suggest the ground of inquiry, but throw light and heat upon it. When the local and State societies have acquired the discipline which time will give to them, they will doubtless present precious abridgements of their proceedings, sentiments and reports, through which the busy members of the profession at large will be able to read as they run the whole improvement of each successive year.

Until that can be accomplished, this Association would, we respectfully suggest, do well to abolish the more comprehensive standing committees, and so subdivide the many objects of attention, as to enrich the domain of medicine by a closer scrutiny of its resources, and employ a much greater proportion of the professional time and talent at its disposal. Such a subdivision should have regard not only to subjects but to regions and climates, to the shores and the interior, to the north, and the south, and the west. No other country enjoys so great a variety of climate, such contrasted geological conditions, so varied a population. Lying between two vast oceans, and extending from the great fresh water lakes on the north, to the alluvial shores of the Gulf of Mexico on the south, our country is inhabited by whites, negroes and Indians, and by hosts of emigrants from other and various climates. Its conditions therefore, for medical observation and research, are both extensive and peculiar. It should be the useful duty of this Association to direct the medical mind of the country to the many topics thus suggested, and to distribute them in such a manner as to insure minute attention to each subdivision of the subject.

These reflections were forcibly suggested to the committee, by the want of variety in the periodical literature of the day. That which for the present, has a great though transient interest, seems to absorb the whole medical mind of the country; and, *docti indoctique scribimus*, of cholera! cholera!! cholera!!!—upon which no one sheds

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new light. Yet in the vicinity of almost every rural practitioner, there lie vast medical interests totally neglected, although a simple, clear, succinct account of them would confer a favour on the profession, and give to the reporter a valuable reputation.

We could not refrain from regretting that the papers written for the profession should so seldom convey exact knowledge of any kind. We find often no statistics of numbers, ages, sexes, colours, no numerical ratio of attacks to recoveries, no proofs of the value of remedies, beyond assertions and boastings, no autopsies, no tracking of an epidemic from the first case to its probable cause, no report of the sequence of cases, where in a very limited locality, the knowledge might be easily obtained, and would, for its very want of dubiety and complexity, be invaluable.

We think it an important part of our duty to object also to the wide scope taken by periodical writers. They treat their subjects vaguely and diffusively, because they assume a too extensive field of observation, and thus unfortunately, so bury in a heap of useless, because trite, knowledge, the new thoughts which it was probably their design to illustrate, that the very purpose of their communications is frustrated.

Another impediment to the progress of practical medicine is found in the want of the power to state truth without bias, qualification or mental reservation. This is especially manifested in the reports upon any exciting epidemic. There is also a want of uniformity in the mode of making reports, which obscures, or even renders inaccessible, the truth. Whilst, when treating of cholera, for example, one individual rejects from his statistics all collapsed cases, and inserts all choleric diarrhœas, indeed all other hospital cases, another carefully segregates his choleras from the others, and reports only upon well-marked cases, including all collapses. The reports must thus differ in apparent results so much as to mislead in one direction or another. Who can take up such statistics with any prospect of arriving at sound results for his future guidance. He sees with surprise, the same remedies, in the same doses, in the same town, and at the same season, curing one in eight, or only 1 in 1.7. One physician thus appears to cure at least five times as many as another, who is in all respects as educated and experienced. Statistics to be relied on must, therefore, be founded on some formulary under the authorization of this Association. Following out this subject, we find that in Philadelphia, the various cholera hospitals afforded in 1849 the ensuing results.

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1st. As reported.	2dly. Without selection.
1 died in 4	1 in 4
1 " 2	1 " 6
1 " 4	1 " 4
1 " 9	1 " 9
1 " 2	1 " 2.5
1 " 3.4	1 " 3.4
1 " 1.7	1 " 5.75
1 " 2	1 " 4
1 " 3	1 " 8
1 " 2	1 " 2.5
Total, 1 " 3.3	Total, 1 " 4.91 or 1 in 5 nearly.

New York Hospitals.

1 in 1.93
1 " 1.86
1 " 1.74
1 " 2.1
1 " 1.97
1 " 2.12

Russia.

In 1830–31, 1 in 1.7
In 1847, 1 " 1.8

Holland, 1848–49.

1 in 1.86

Boston Hospital.

1 in 1.59

New Orleans Charity Hospital.

1 in 1.55

Berlin, in 1848.

1 in 1.6

The mean mortality, as expressed by the reports, exclusive of that of Philadelphia, is 1 in 1.82, or nearly 5 in 9, more than one-half; whilst that of Philadelphia is 1 in 3.3, or nearly 3 in 10, less than one-third. It will be perceived that in those Philadelphia hospitals in which the distinctive details were most scrupulously kept, the mortality by cholera is represented as 1 in 3, 1 in 2, and 1 in 1.7; whilst an indiscriminate mean would give to them respectively, 1 in 6, 1 in 5.75, and 1 in 8.

Through the kindness of the Board of Health, the original reports from the various hospitals of Philadelphia were submitted to the inspection of the Committee, and are herewith presented as original and very instructive matter.

MOYAMENSING HOSPITAL.—J. S. Adkins, M. D., Henry Y. Smith, M. D., Assistant.

Of 116 cases of cholera of all degrees, 22 were collapsed when

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admitted, and all died; 4 collapsed, fatally, after reception, and 3 died of *consecutive fever*, making in all 29.

Besides these, 1 case died of cholera infantum.
1 infant of meningitis.
2 adults of typhoid fever.
1 adult died of ulceration of stomach.
1 " of dysentery.

6

At first the plan of treatment was stimulating. After a change of physicians opium in large doses, from three to nine grains at a dose, was given, after which, of 88 cases, 11 died, (1 in 8.)

Of the cases which collapsed after the change of plan of treatment, 1-3d recovered.

Of the 28 treated before the change, 18 died, or 1 in 1.55.

Of the 88 treated after the resort to opium, 11, or 1 in 8 died. After reaction, and in prolonged cases, the indications were medically complied with.

CHERRY STREET HOSPITAL.—F. W. Sargent and W. B. Wilson.

Eighty-six cases were received, of which

27 were affected by cholera asphyxia,
1 was affected by cholera morbus,
3 were affected by indigestion,
11 " " dysentery,
24 " " diarrhœa,
1 was affected by cramp,
9 were affected by intoxication,
1 was affected by mania à potu,
1 " " inflammation of the brain,
1 " " apoplexy,
1 " " rheumatism,
1 " " typhoid fever,
2 were affected by coup de soleil,
1 was affected by disease of the heart,
2 were affected by exhaustion.

Total, 86

Of the whole, 18 died; 14 of them by cholera asphyxia, 4 by *coup de soleil*, 1 by exhaustion, and 1 by disease of the heart.

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The mortality as usually stated would, therefore, be 18 in 86, or 1 in 4.77. But the mortality by cholera was much higher, being 14 in 27, or 1 in 1.92, or nearly one-half.

Of the cholera cases, 10 were received in a pulseless state; 10 with a scarcely perceptible pulse, and with cold tongue and breath; and 7 with milder but marked cholera symptoms; of the totally collapsed cases all (10) died; of the partially collapsed cases (10) 4 died; of the well-marked, but not collapsed cases, all (7) recovered.

The plan of treatment finally and successfully adopted, was—Quinia in a medium dose of 10 grs. repeated p. r. n., soup, cold water, heat to the surface, and occasionally brandy and opium in moderate doses.

Calomel, opium, and stimulants, were so unsuccessfully used at the first, as to lead to a total change of practice, and to a reliance mainly upon quinia.

RICHMOND CHOLERA HOSPITAL, PHILADELPHIA.—William C. M'Mackin, M. D., and Fisher C. Smith, M. D.

Fifteen cases of cholera, and one case of dysentery following cholera, were received.

Of the 15 cases of cholera, 5 were collapsed, and of these, 1 died immediately upon his reception. Of the other 4, 2 were bled to the amount of ten or twelve ounces and died, one about six, and the other four hours after venesection.

The 2 remaining cases were treated solely by internal stimulants, and one died after 27 hours, whilst the other recovered after being collapsed 36 hours. The 9 cases of cholera asphyxia not in a state of collapse when received, recovered.

The mortality of this hospital was 4 in 16, or 1 in 4. Of the cholera cases, 4 in 15, or 1 in 3.75.

The treatment, in ordinary, was by external and internal stimulants, frictions, with ice and dry cloths for the collapsed cases; but for the others, astringents, calomel, opium, tonics, and in some cases which needed them, stimulants.

SOUTHWARK HOSPITAL.—D. F. Condie, M. D., and M. W. Dickinson, M. D.

Of sixty-six cases admitted, 64 were affected with cholera. Of these, 14 were in a state of partial or total collapse, and 50 not collapsed. Of the totally collapsed (5), all died. Of the slightly collapsed (9), 8 recovered; and of the non-collapsed cases (50), not one died.

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Extract from a letter written by the chief of the Southwark Cholera Hospital to Dr. J. K. MITCHELL.

"My treatment of the disease varied somewhat in different cases. In some, upon the first incursion of the attack, I found venesection (from 12 to 16 ounces) to produce the most favourable results; and even in cases in which bleeding was not deemed advisable, cups to the abdomen seemed to me to be of very great advantage. The good effects of direct depletion, general or local, or both, were evinced in the removal or abatement of the irritability of stomach, the griping and spasmodic pains of the intestines, and in rendering more controllable, the profuse serous (rice water) discharges which mark the first stage of the disease.

"Small doses of chloroform in aq. camphoræ, small doses of magnesia in the aromatic spirits of ammonia, diluted with aq. camphoræ, I found useful in many cases in allaying the vomiting and gastric irritability. In one or two cases in which the irritability of stomach was excessive, and attended with violent spasmodic pain, and in which every remedy administered appeared rather to augment than diminish the sufferings of the patients, steady, gentle pressure applied upon the epigastrium, promptly arrested the pain and vomiting.

"To relieve the painful spasms of the limbs, dry friction, friction with some stimulating liniment, and the application of the tourniquet were the remedies employed by me.

"To arrest the excessive serous discharges of the first and second stages, I have invariably employed a combination of opium, camphor, and acetate of lead; one grain of each for a dose, to be repeated every three, two or one hour, according to the effects produced by the preceding dose or doses, the violence of the attack, age, and condition of the patient, etc. When the attack occurred in patients broken down by intemperance, I have usually directed a grain or two of capsicum to be added to each dose.

"In the stage of approaching collapse, my treatment has been frictions with the hand or a soft flesh brush, or with a flannel cloth dusted with mustard, assiduously applied to the surface of the body, dry cups to the spine and epigastrium, sinapisms to the extremities, with a continuance of the pills of opium, camphor, acetate of lead, and capsicum. To allay the inordinate thirst, the patient was given, at short intervals, a teaspoonful of powdered ice. Warm applications to the surface, I have always found to be prejudicial, while rubbing the patient's limbs and abdomen with portions of ice, and placing him in a current of cool *dry* air, has in many cases been followed by an amelioration of all the most dangerous symptoms.

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"From the stage of confirmed collapse, with algid skin and tongue, deep blue colour of the surface, lips, tongue, and interior of the mouth, profuse perspiration, suspended or scarcely perceptible pulse, corrugated extremities, sunken eye, and low, whispering, husky voice, I never saw any one recover. I have tried every remedy that I have read or heard of, but from no one of them have I seen the least good effects result.

"In 1849, I saw many cases of cholera, combined with dysenteric symptoms. In such I think I saw benefit, and if I have not deceived myself, very prompt and decided benefit, from the use of the nitrate of silver internally. I gave it in doses of one-third of a grain combined with one of opium, and a sufficiency of extract of gentian to make into a pill. The doses were given at intervals of three, four, or six hours, according to the greater or less violence of the case.

"The result of every plan of treatment in any given disease must be determined by comparing the mortality which takes place under its use, in a large number of cases taken without selection, and in the instance of an epidemic at all periods of the epidemic. From the official position which I held in 1832 and 1849, I had a very large field afforded me for treating the disease. Now in 1849, the per centage of mortality in all the cases of cholera treated by me in the Southern Hospital, was ten per cent., and in all the cases treated by me in private practice—that is in the patient's own dwelling—rather more than four per cent. The cases referred to were all genuine, fully formed attacks of epidemic cholera. If I had included all cases treated by me of cholerine, the per centage in hospital practice would have been reduced to seven, and in private practice to less than two. Sincerely yours,

D. FRANCIS CONDIE.

117 Catharine Street, *April* 19, 1850.

Northern Liberty Cholera Hospital.—Jacob S. Zorns, M. D., and Henry W. Rihl, M. D.

Admitted 52 cases, of which 47 were affected by cholera. The whole mortality was 23; of which, 17 died of cholera; 4 by *mania à potu;* 1 by *coup de soleil*, and 1 by typhus fever. The whole proportional mortality was 1 in 2.26; that of cholera was 1 in 2.76.

Pine Street Cholera Hospital.—J. Neill, M. D., and R. B. Cole, M. D.

The whole number of patients was 46; of which, only 14 were

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affected by well-marked symptoms of cholera, and of these 7 were received in a state of collapse. The others were affected by a variety of disorders. The whole proportional mortality was 8 in 46, or 1 in 5.75. The deaths by cholera were 8 out of 14, or 1 in 1.75. Of these, 7 were totally collapsed when received, and 1 collapsed in the house. Of the 6 non-collapsed cases, all recovered.

Received, cholera, 14; diarrhœa, 13; dysentery, 2; debility, 3; drunkards, 11; cramp, 1; enteralgia, 1; gastritis, 1. Total, 46.

The treatment in this hospital was founded upon the indications as manifested by the symptoms. The doses being more active, according to the more rapid course of this disease.

Post-mortem examinations made upon 4 of the fatal cases in this hospital, and 21 other cases examined by Dr. Neill elsewhere, led him to believe that there is no characteristic alteration of the structure of the alimentary canal, that there is no necessary destruction of its surface by inflammation, that there is, therefore, no pathological resemblance to cholera morbus, diarrhœa, or any other well-known enteric affection.

BUSH HILL HOSPITAL.—J. P. Bethell, M. D., H. Ladd, M. D.

Received,	cholera,	38,	of which	died	20, or 1 in 1.9
"	cholera morbus,	1,	"	"	0
"	dysentery,	1,	"	"	0
"	diarrhœa,	6,	"	"	0
"	small-pox,	1,	"	"	1
"	convulsions,	1,	"	"	0
	Total	48			21, or 1 in 2.3

The only hospital results which can compare well with some of those of Philadelphia, were published during the epidemic of 1832, by Mr. Orton, of the Regent St. Hospital, London. The mortality in his hospital was 1 in 8. The means of cure were simple. He gave from a quarter to one grain of opium with, *occasionally*, two to ten grains of calomel. The opium was frequently repeated, a strict HORIZONTALITY enforced, tepid beverages, and a little highly spiced mulled wine were permitted, and he boasted of the then greatest hospital success in the world.

At that time, experiments in various hospitals gave the following results, which are here again recorded to show to those inclined to boast of the great success attained by the use of particular articles of cure, how little reliance the profession can place upon any empirical, or exclusive practice.

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By the use of calomel and opium, died		57.14	in 100, or	1 in 1.75
"	opium alone,	58.0	"	1 in 1.72
"	calomel alone,	46.66	"	1 in 2.14
"	a stimulant practice,	66.67	"	1 in 1.5
"	the saline practice,	88.00	"	1 in 1.13
"	venous injection,	90.00	"	1 in 1.11
"	a miscellaneous practice,	47.00	"	1 in 2.12

Dupuytren, in 1832, endeavoured to check the discharges of cholera, by acetate of lead in large doses, combined with opium; but the want of success caused him to abandon that practice. In 1834, Mr. Graves, of Dublin, revived and gave repute to, the acetate of lead, as a remedy in cholera; but, as he gave no statistics, and the mortality by cholera remains unaltered, we must suppose that this one must share the common fate of all specifics.

A reference to the almost forgotten experimental follies of the period of the first invasion of cholera, will show that heat, and cold, and charcoal, and quinia, and naphtha, and turpentine, and every substance, not even excepting sulphur, so lately, so much lauded, were tried, praised, and finally abandoned. Every possible theory of the disease produced its appropriate practice, its boastings, and its abandonment. It was the nervous system that suffered, and nervines and spinal remedies were used. It was the skin, and the patient was roasted, or boiled, or irritated by ammonia, or sinapisms, or blisters, or hot ashes. It was the blood, and transfusion, salines, and other medicaments thrown into the veins, tortured the patient when alive, but the sooner ended his sufferings. It was congestion according to some, inflammation according to others, and, therefore, venesection, and cups, and leeches, exhausted the feeble remnant of a collapsing vitality.

Has the history of these hallucinations benefitted the profession by curing it of the disposition to deal in heroics, and rely upon nostrums? By no means! The pamphlets which have been outpoured upon the public, and the essays which disfigure the journals, lack nothing of the jubilation and the specifics of the earlier era.

The practice in cholera may be divided into two great classes: First, we have the system of perturbation, or strong impression, by which it was hoped that a more curable disturbance might replace that of the disease. The great leader of this system was the Frenchman Bally, who gave high doses of opium—who subsequently threw into the system thirty or forty grains of sulphate of quinia at a dose —who purged with oil of croton—who resorted to ice water—who

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tried large local and general bleedings—who finally relied upon galvanism, and who, a painful comment upon medical heroics, lost, of his first thirty cases, *all but one.*

The other system was founded chiefly upon the known means of correcting symptoms, for few judicious men relied upon a disputed and disputable pathology for suggestions of cure. By this system the determination to the bowels was directly checked by a horizontal position, by opium, preparations of lead, tannin, and other astringents, and cold drinks, and enemata; whilst it was indirectly aided by the means calculated to swell the capillaries of the skin, by emetics, by continued hot applications, either moist or dry; or suddenly applied and temporary cold ones; by rubefacients, frictions, or even vesicatories. The dark blood was to be corrected by the internal and external use of the salts, which most readily impart oxygen, and cause the elimination of carbonic acid; by a ventilation which supplies the purest and coolest air; and in desperate cases, by venous injections of the salts and water necessary to the restoration of the normal state of the blood.

The abnormal state of the nerves of organic life, evinced by the functional irregularities, and the involuntary muscular contraction, including the vomiting and purging, is to be corrected by nervines, by blood-letting, by hot baths, by inhalations of ether or chloroform, by rubefacients, by applications of an irritating nature to the spinal column, and by electrical currents in the cerebro-spinal axis.

The vitiations, or substitutions of the usual secretions of the bowels, are met by the great alterative, mercury, the tendency of which is to check the serous exhalation from the areolar element of the mucous tissue when in excess, and to excite to greater action the follicular structure by which mucous passages are produced. The high doses of calomel so enthusiastically lauded, and so severely criticised, were faithfully tried in the Charity Hospital, at New Orleans, by Dr. Brickell. To two cases, he gave 100 grs. each, in two doses within two hours; to one case in three doses, 90 grs. in four hours; to one case 120 grs., to one 150 grs., to one 180 grs., to each of two cases 240 grs. Of the ten cases so treated, four were collapsed, but with a pulse distinct at the wrist. They all died. Of the remaining six not one was apparently in immediate danger; but one of them died, and two who recovered were badly salivated. In no case did these enormous doses even check the vomiting and purging.

The tendency to sink, as expressed in the prostration of the

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nervous force, and consequently of the muscular ability, is of little importance except so far as it impairs the mechanical powers of respiration, and abates the motion of the heart. When the phenomena of the case display this condition of respiration and circulation, some temporary advantage is derived from stimulation; which should be cautiously used, because stimulants excite action without supplying force, and because the reactive fever is found to be most dangerous after the greatest stimulation.

The enfeebled capillary circulation, and the hazard of the disintegration of blood in a state of *stasis*, make expedient, frictions and compressions, including the use of the tourniquet.

That these views are as correct as they can be, in the present state of our knowledge, is made apparent by the fact that upon the whole, the hospital practice everywhere has been successful almost directly in the ratio of the rationality and the moderation of that practice; whilst as a general rule, the results have been unfavourable according to the approach to the use of single articles, specifics, and heroics.

The committee know well, however, that the results of hospital practice depend not alone upon the soundness of the practice, but the condition of the majority of the patients. Foreigners, the intemperate and the destitute, suffer more intense attacks, and recover from ordinary ones, less readily than temperate people, and natives. Ignorant of the public succour offered in such cases, they apply for relief long after restoration is impracticable. Thus at Boston, of 154 intemperates, 129 died, or 1 in 1.2 nearly; $\frac{1}{1}\frac{1}{2}$ths nearly; whilst of 108 temperates, 37 died, or 1 in 3 nearly; or $\frac{3}{1}\frac{3}{2}$ths. The loss of the intemperate was therefore proportionally four times as great as of the temperate.

We have not been able to obtain statistics of the proportional mortality of strangers and natives, but our own experience, and the observation of some of our medical friends, enable us to state that the chances of life under assaults of cholera are greatly in favour of permanent residents. The results, therefore, in the hospitals must vary, also, according to the birthplace of the inmates. In the same city, the statistics will appear favourable or otherwise, according to the habits and the domiciles of the patients received. In a hospital of temperates, four times as many would recover as in an asylum of inebriates, whilst the ratio would be raised higher by the exclusively American character of the cases. Thus one physician my report a loss of six times as many as another; not because the practice is

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worse, but because the subjects are different. These circumstances and the earlier application of private patients for relief, make the statistics of private practice greatly more favourable than those of the best managed hospitals.

The proportional number of foreigners in the Philadelphia Hospitals is given in only three institutions, viz:—

Northern Liberties Hospital	32	Foreigners,	20	Americans.		
Pine Street Hospital	9	"	5	"		
Southwark Hospital	29	"	37	"		
				Amer.		Foreign.
Total,	151		107	1	to	1.41
In the New York Hospitals,	1424	"	403	1	to	3.53
In the city of Boston,	262	"	135	1	to	4.24

The proportional mortality in the hospitals of the three cities was as follows:—

Philadelphia	1 in 3.3
New York	1 in 1.95
Boston	1 in 1.58

Comparing the numbers expressive of the relative proportion of foreigners, with those expressive of the relative mortality, we find them nearly in direct proportion; the greater the number proportionally of foreigners, the greater the relative mortality. In Boston, where the proportion of foreigners was greatest, there was the greatest proportional mortality; in New York, a fatality of little less; and in Philadelphia, much the least. In Philadelphia, the hospital known to have received the greatest proportion of Americans, shows the most favourable hospital statistics in the world. It was favoured, also, by the steady application of a mild and patient practice.

Before taking leave of this part of our subject, we desire to record a few remarks upon the effects of certain articles in relieving certain symptoms in cholera. It has been erroneously supposed that much has been effected when the vomiting and purging are checked; but if the medicines by which that result is obtained, do not also abate the exhalation into the *primæ viæ*, the patient is placed only in greater danger. The Boston reporters tell us that *in no case* did wood naphtha fail, after the second or third dose, to relieve the vomiting *perfectly*. "Even in cases which ultimately proved fatal, we were perfectly satisfied of the power of this drug to check vomiting speedily." Doctor Bournonville, of Philadelphia, asserts the

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same thing with regard to chloroform in small doses, which has the additional advantage of an arrest of the causes of the vomiting.

The above facts render more probable the statement made by Doctor Spinks and others, respecting the potency of creosote to check purging and vomiting. It is alleged that it relieves not only choleric diarrhœa, but true cholera even in a state of collapse. Spinks' formulary is a good one.

℞.—Kreosot. ℥xxiv;
Mist. acaciæ ℥ss;
Spirit ammoniæ,
C. camphoræ, āā ℥ij;
Ether. chloric. ℥iij;
Aquæ ℥viss. M. ft. mist.
Capiat coch. mag. ij, omni hora.

Cold applied to the epigastrium externally and internally, and blood-letting by cups to the dorsum and epigastrium, seemed to have a high power of restraining the evacuations. Acetate of lead, so useful in the gastric irritation of yellow fever, and so potent in the control of dysentery and diarrhœa, promises upon principle, to fulfil the most important indications, as in fact it is alleged to do in cholera. The Boston reporters tell us, that of all external applications that of a warm, dry blanket kept steadily upon the patient does the most good. Patients thus treated became more speedily warm, "and those who for an hour were kept closely enveloped in blankets, *took no medicine*, and got no drink, suffered the least, and were the most likely to recover."

Salines, so much indicated by the wants of the blood, have been found useful by most of the hospital reporters. These remedies were used very early by some of the East Indian physicians, especially the carbonates of soda and potassa, so lately pressed as a novelty, upon the attention of the President of the United States.

Emetics were once much prized in the treatment of cholera, but although still esteeemd by the few who retain them as a part of their practice in such cases, they seem to have passed into comparative disuse. Believing them to be very useful in the inception of the treatment of cholera, as restoratives of reaction, and as invitants of blood to the surface, as well as restrainers of the constant retchings by which patients are exhausted, we regret that any mere fashion in medicine, or the rage for novelties, should cast them into obscurity.

The following communication from J. H. Stokes, M. D., of New

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Jersey, a rural physician, well and most favourably known to some members of the committee, is entitled to respectful consideration, as presenting novelties in the method of using the mustard and salt emetic, with results of a very favourable character.

"From the 25th of June to the 11th of August, 1849, there occurred in my practice, sixteen *well marked* cases of cholera, exclusive of numerous cases partaking largely of the character of the disease.

"These sixteen cases I have divided into three classes, viz.:—

Five cases, collapsed.

Six cases, very severe, not collapsed.

Five cases, well marked but mild.

"Of the collapsed cases, the first was treated by moderate portions of opium, camphor, and brandy, with external stimulants, frictions, &c., and died in twelve to fifteen hours. The second (a man of 45 years of age, good constitution, and temperate) was treated according to Hawthorn's method, by large doses of opium, camphor, capsicum, and ammonia, with external heat. Died in about the same period.

"The third, fourth, and fifth cases (and certainly as severe, and two of them under more unfavourable circumstances), were treated by stimulating emetics and external stimulants, and all recovered.

"Of the second class one was treated by camphor, opium, capsicum, &c., and five by stimulating emetics, and external stimulants. All recovered.

"The treatment of the third class not particularly noted, but generally by stimulating emetics.

"The plan I prefer, is to administer to an adult, two large and full teaspoonfuls of good powdered mustard, and half the bulk of table salt, in a half tumbler of warm (not hot) water, and this portion is repeated at intervals of ten minutes, without regard to quantity, until the diarrhœa has ceased, and reaction is produced.

"The patient is kept *strictly* in the horizontal posture; the epigastrium covered by a large mustard plaster, and similar stimulating applications to the extremities.

"All frictions are interdicted, as fatiguing to the patient, and upon the same ground I have thrown aside enemata.

"Should the patient relapse, I have but one direction to leave with the attendants, 'puke him again until he gets warm.'

"After reaction has taken place, nutritious soups are given, with, perhaps, a little brandy, but *no opium*.

"Should constipation follow, and this, according to my experience,

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has mostly been the case, I prefer calomel in three or four grain doses, repeated a few times, and followed, if necessary, by rhubarb.

"The extreme sensibility of the system to the effect of opiates, constitutes a very peculiar and important feature after this kind of stimulation. A dose of opium which may be taken with perfect safety under ordinary circumstances, will pretty certainly produce dangerous, and, perhaps, fatal congestion of the brain.

"The first emetic is frequently ejected in a few minutes after it is swallowed. In this case it is repeated immediately. After throwing off a few portions in this way, there is an interval of half an hour or more, which is followed by the specific action of the medicine, and after a few efforts, an extremely tenacious mucus is thrown off in large quantity, and the peculiar thin or serous discharge ceases entirely, both from the stomach and bowels.

"I have seen *no case*, either in 1832 or subsequently, where there was a single 'rice water stool,' after the stomach had commenced to discharge this tenacious matter.

"This, I am aware, is a strong assertion, but I am fully supported in it by the observation of my friends Doctors Spencer and Thornton, both of whom have repeatedly used the same means, with an equally favourable result.

"In 1832, the cholera in this vicinity, though confined to few cases, was marked by extreme virulence. We lost *every case* under the opiate treatment, and cured *every case* after we commenced the emetic plan."

So far as the committee have been able to collect the sentiments of physicians much conversant with the subject of the treatment of cholera, they believe that the internal sedatives and astringents in moderate and frequent doses, prompt venesection, and external stimuli, including heat and cold as the case may require, and salines, constitute the most successful practice in this formidable disorder. One of the most common errors consists in the want of patience, and in the restless change of the mode of remediation, so that a medicine is not permitted to make a permanent impression, before a new article is substituted. It is chiefly for this reason that empirical remedies have so often acquired a reputation superior to that of a more rational practice which is not so steadily adhered to.

The cause of cholera is usually almost universally admitted to be a poison, the introduction of which into the body disturbs the nervous system, especially the organic nervous system, in nearly all the people who live within its scope. In many, this disturbance is manifested

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only by lassitude, or slight cramp, or slighter indigestion. In others, it expresses itself by anorexia, borborygmus, diarrhœa, or even dysentery. In a small part of the population it manifests its power by the production of watery passages, aqueous emesis, a rapid decline of the force of circulation and of the function of heat, and by violent and painful cramps of certain muscles.

Are all these one and the same disease? Assuredly, if produced by a single specific cause! That the cause of cholera produces other and even fatal diseases, which are not usually esteemed as cholera, may be proved in various ways. Perhaps the strongest is the fact that in all places where cholera prevails, an attack of it is preceded by a diarrhœa of greater or less duration, except when, as at the New York quarantine station, it was brought from sea suddenly. Even in such cases, a diarrhœa immediately follows the first cases of cholera, and marks nearly all the subsequent ones.

Another proof of this important truth is, not only the coincident prevalence of bowel complaints which do not terminate in cholera, but their singular tendency to a fatal issue without presenting any acknowledged cholera symptoms.

A reference to the statistics of such of the Philadelphia cholera hospitals as presented detailed reports, will show the prevalence of other bowel complaints. Thus, in the Cherry Street Hospital, while twenty-seven were affected by cholera, eleven had dysentery, and twenty-four diarrhœa, and that, too, in a hospital devoted to the use of cholera patients.

In New York, in 1848, when no cholera existed there, 492 persons died of cholera infantum, 27 of cholera morbus, 227 of diarrhœa, 518 by dysentery, and 291 of inflammation of the stomach and bowels, making for the five warm months a grand total of 1355. For the same period of 1849, when cholera prevailed, there died of cholera infantum 901, of cholera morbus 226, of diarrhœa 615, of dysentery 949, and of inflammation of the stomach and bowels 344, making a grand total of 3035, although cholera asphyxia removed from the possibility of death from such causes 5017 cases of persons who, from bad habits, exposure, and want, would have been very liable to such disorders.

The valuable paper of Dr. McPheeters, on the late epidemic at St. Louis, speaks, in several places, of the general prevalence of abdominal affections, and of the irresistible tendency to death by affections apparently slight, and in ordinary times easily managed, and concludes a paragraph with the remark that "this enormous mor-

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tality from other diseases is, in a great measure, to be attributed to the baneful influence of the epidemic."

That cholera is a *portable disease* seems now difficult to doubt. Passing over the old and oft-repeated arguments derived from the Topaz frigate, by which it seems to have been carried to the island of Mauritius, that of the Bakou, by which it appears to have been conveyed to Astracan, the Carricks, by which it seems to have reached Quebec, and the Amelia, which obviously carried it to Folly Island, we have taken some pains to collect the information necessary to understand fully the part sustained by the infected ships which arrived in the United States just at the period of the outbreak of cholera at the New York quarantine station and at New Orleans.

The infected ship which arrived first was the New York, which left Havre on the 9th Nov., ten days after the Swanton sailed thence for New Orleans, the latter ship having weighed anchor on the 30th of October. On the 25th Nov., the New York was in N. Lat. 42°, Long. W. 61°, out from port 16 days, when there occurred the first case of cholera. The patient died in about 48 hours.

One day later, 26th Nov., the Swanton, out from port 27 days, was in latitude 25° 47′ N., Long. 57° 08′ West, when there occurred the first case of cholera. The patient died in about 48 hours.

The New York arrived on 1st Dec., or in six days, and the Swanton entered the mouth of the Mississippi on the 9th, or in thirteen days. On the 10th, one person died of cholera in the river, and on the 11th, just as the ship reached New Orleans, a case occurred on board, which was sent to the Charity Hospital.

The first cholera patient not attached to the ship New York was seized forty-eight hours after having been on board, and died on the same day. A nurse, who had not been on board, and who was not known to have had any communication with the people of the New York, was also seized on the same day, and within that day died.

The first person in no way connected with the Swanton, who was attacked by cholera at New Orleans, was seized on the evening of the 13th, just forty-eight hours after the arrival of the vessel at the Levee. On the 15th, there were admitted into the Charity Hospital from the city eight cases of cholera.

It is somewhat remarkable that, in both ships, the first cases of cholera occurred during a sudden change of the weather from an agreeable coolness to a comparatively great warmth, owing to a south wind succeeding to a northern one. The thermometer in the New York, on the 25th Nov., stood at 60°, and the Captain (Duncan)

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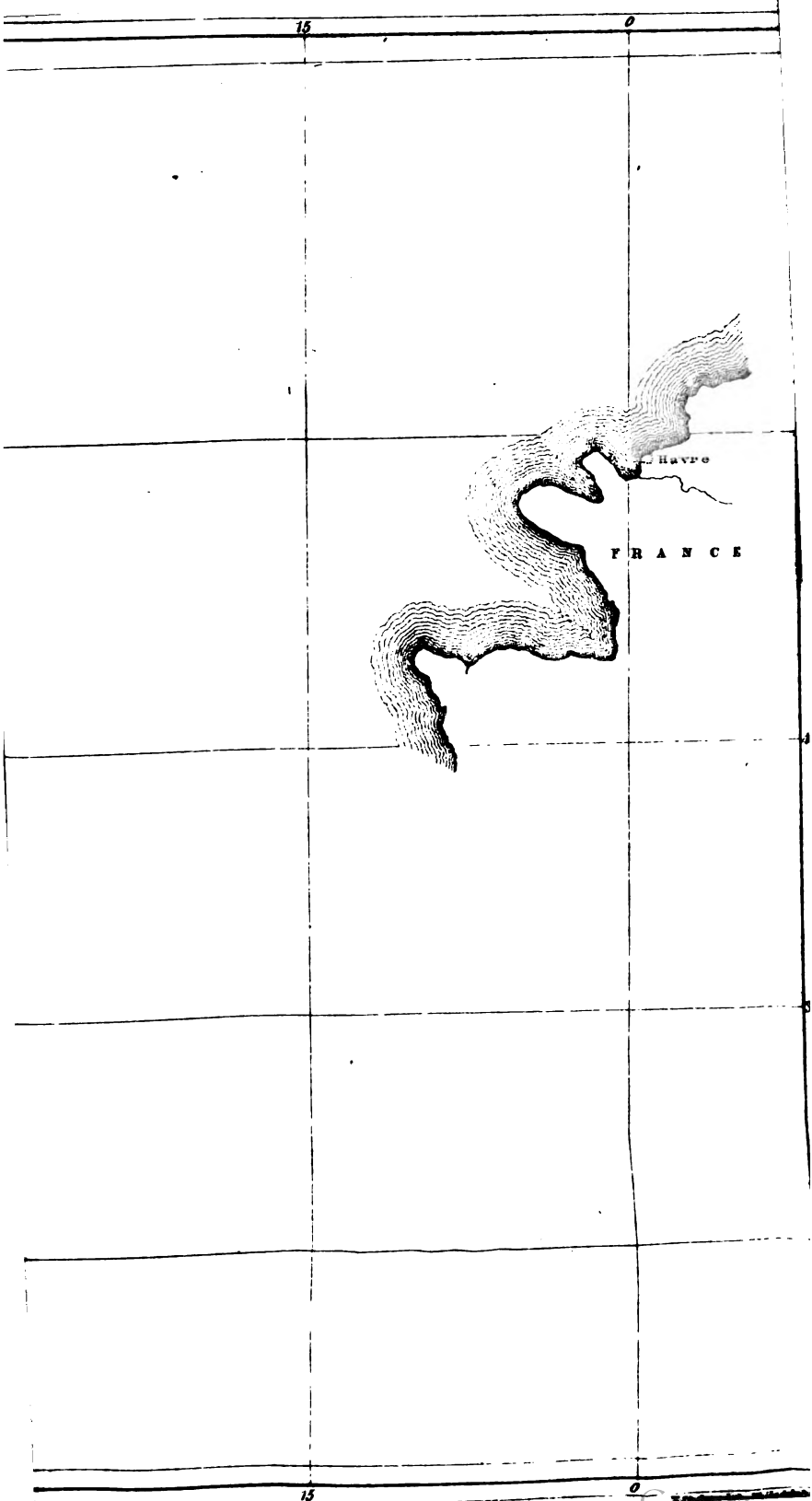

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of the Swanton, in a letter to the Chairman of this Committee, says, "Previously to the commencement of the sickness, for twenty-four hours, we were visited by a very hot south-east wind, such an one as I never before felt; indeed, it was more like artificially heated air than anything else." The first case came on epileptically, after which there ensued a diarrhœa, vomitings, cramps, and death.

To enable the members of the Association the better to see the relative positions of these two vessels, the Committee have caused to be carefully prepared a chart, which is herewith presented. By this, it will be seen that the two vessels, so nearly simultaneously and similarly attacked, were separated by three degrees of longitude, and sixteen of latitude, or, in other words, were nearly 1000 miles asunder. Each of them retained the disease until arrival. Each sent ashore cases of cholera, and notwithstanding the very great difference of climate and weather in Staten Island and N. Orleans, the people of the respective places were attacked in the short space of forty-eight hours after arrival. It may not be unpardonable here to mention the fact that, in 1832, the Carricks brought cholera to Grosse Isle, the quarantine station of Quebec, on the 5th of June, and that on the 8th cases began to appear in Quebec.

In whatever way these vessels may have received the infection of cholera, there is left but little doubt that they brought the cause of disease to their respective ports, and communicated it to the people on shore. There is, therefore, good reason to believe in the *portability of cholera.*

In what manner is it portable? Your Committee conceiving this to be a question of the most vital practical importance, have taken some pains to collect exact information in a particular locality.

The first example cited is that of the cholera in Philadelphia in 1849. The accompanying outline map of the city and districts shows the date and place of the occurrence of the first 23 cases of cholera reported to the Board of Health. Letters from the 21 physicians to whose care these cases were entrusted, authenticate in the strongest manner the details of them. Two cases occurred on the 30th May at the upper verge of Philadelphia, in the Richmond district. On the same day, another presented itself in the district of Southwark, on the lower verge of Philadelphia, at the distance of 3¼ miles. On the following day, a patient was seized within the city proper, a quarter of a mile from the third case. Three-quarters of a mile from this, occurred another on the 1st of June, and a sixth on the same day near the Schuylkill, at least 1½ miles from any of

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the preceding ones. The seventh case was near the river Delaware, the eighth in the district of Spring Garden, the ninth in the city, near its southern border, and the tenth 2⅞ miles from the ninth, at the Point House, entirely below the limits of the City and Liberties. On the 11th of June, occurred the eleventh case, in Richmond, near to the spot where happened the first two cases, 12 days before, and 5⅛ miles from the tenth case.

In 17 days from and after the first case, 3 had happened in Richmond, 3 in Kensington, 2 in Spring Garden, 10 in the City, 4 in Southwark, and 1 in Moyamensing. Of these, with the exception of the first two, none were within a square of each other, although every district, but those of the Northern Liberties and Penn, had at least one case.

A few of the gentlemen to whom notes were sent, failed to answer them. Two had cases which had been in the immediate vicinity of other cases, but fifteen replied decidedly that there was no reason to believe that their patients had been exposed to any infected place, or to any case or cases of cholera. One case, the eleventh, which occurred on the 12th day of the epidemic visitation, had recently visited the infected city of New York.

The following table exhibits in a single view the facts to which allusion has been made:—

Names.	Reported.	Distances.	
1. James Johnson,	May 30th,	1 and 2 to 3, 3¼ miles,	Janvier, M. D.
2. J. B. Kirkpatrick,	do.		do. "
3. C. Carr,	do.	3 to 4, ¼ mile,	Condie, "
4. P. Williams,	May 31st,	4 to 5, ¾ "	Smiley, "
5. F. Couly,	June 1st,	5 to 6, 1½ "	Reid, "
6. S. Coyle,	do.	6 to 7, 1¾ "	Stokes, "
7. Female,	June 2d,	7 to 8, 1⅜ "	Gegan, "
8. Ann Wilson,	June 6th,	8 to 9, 1⅛ "	Jewell, "
9. G. M. Forrestier,	June 7th,	9 to 10, 2⅛ "	Pepper, "
10. W. Harrison,	do.	10 to 11, 5⅛ "	Scoffin, "
11. Capt. Seely,	June 11th,	11 to 12, 1½ "	Janvier, "
12. J. Harvey,	June 12th,	12 to 13, 1⅝ "	Housekeeper, M. D.
13. Pierson,	June 13th,	13 to 14, ½ "	Kreeger, "
14. J. H. Brown,	do.	14 to 15, ¾ "	Hastings, "
15. Laikins,	do.	15 to 16, 2 "	Smiley, "
16. Butterfield,	June 14th,	16 to 17, 1 "	Hill, "
17. J. Lehr,	do.	17 to 18, ¼ "	Ingram, "
18. S. Gemar,	June 15th,	18 to 19, 1⅜ "	Fricke, "
19. J. Dixon,	do.	19 to 20, ¼ "	Hershey, "
20. E. Toll.	June 16th,	20 to 21, 1½ "	Kline, "
21. J. Shaw,	do.	21 to 22, 1⅞ "	Clements, "
22. S. Lynes,	do.	22 to 23, 1⅛ "	Aypell, "
23. Peterson,	do.		Gardiner, "

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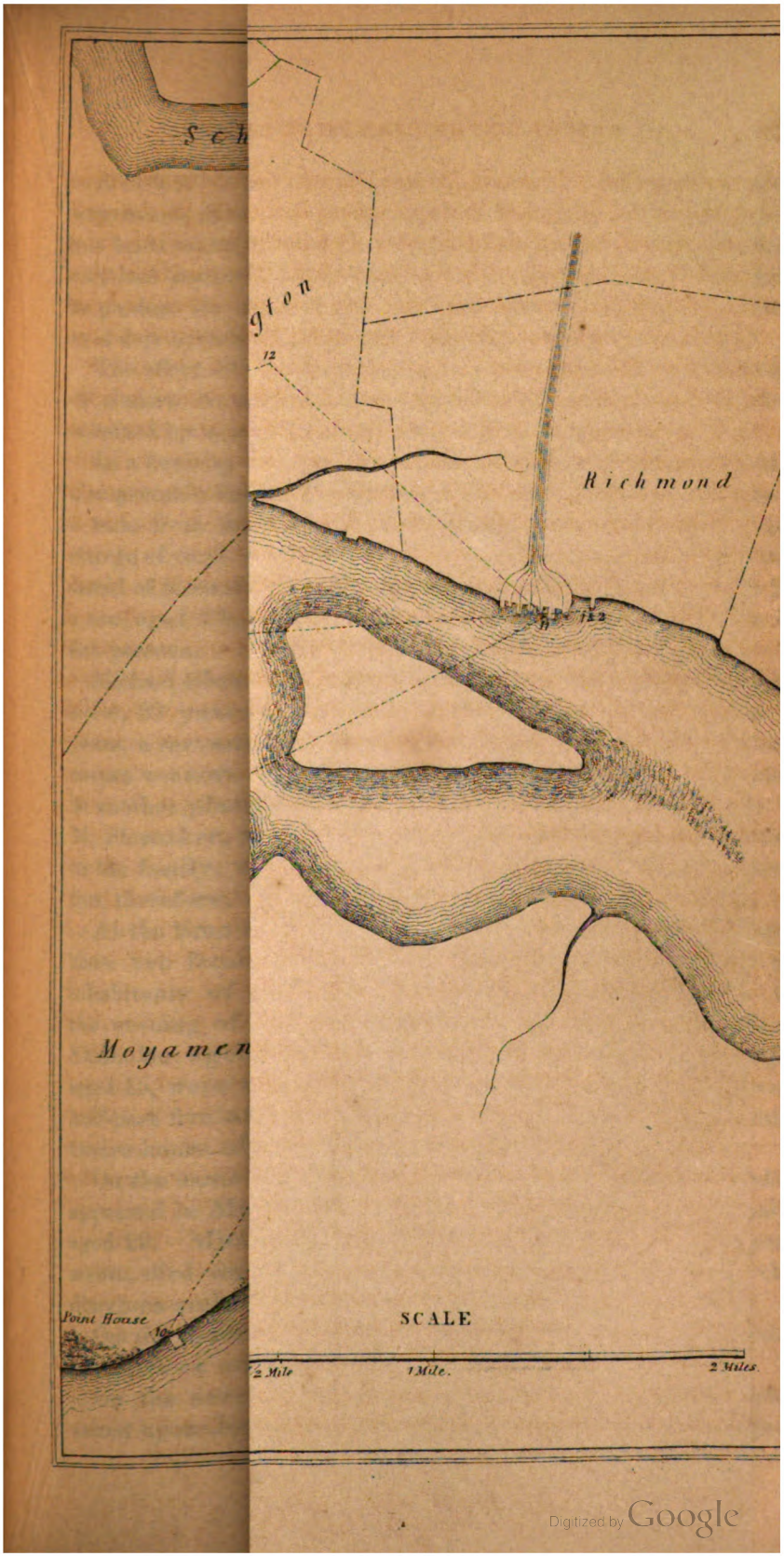

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A review of these facts so carefully collected and so thoroughly scrutinized, does not favour the theory of propagation by contagion, but leads rather to the conclusion that the atmosphere of the whole city had become slightly epidemical, not being sufficiently poisonous to produce its specific effects unless aided by personal imprudence, or a deleterious locality.

The effect of special conditions upon the power of the progression of cholera is singularly demonstrated by the following narrative, obtained by a member of the committee.

In a healthy district, twenty-six miles from Philadelphia, resided a respectable farmer, Mr. Joseph Sloanaker. About three-eighths of a mile from him lived his son, Mr. Michael Sloanaker, who had charge of and cultivated the farm. The family of Joseph S. consisted of himself, aged 64, his wife, aged 65, his daughter, aged 22, a son, aged 21, and a little bound servant of 7 years of age, in all five persons.

Michael Sloanaker's family consisted of himself, aged 27 years, his sister, 29 years, Joseph Upperman, 26 years, James Spranger, 15 years, a servant maid, 19 years, and a bound girl, 11 years. Three carpet weavers boarded in the family, slept in the house, and worked in another place at some distance. To these may be added Dr. L. M. Sloanaker, who was in constant attendance, living for the time in the family, which thus consisted of ten persons. The two families, therefore, amounted to fifteen persons.

At the time of the disastrous attack of cholera, which fell upon these two families, 11th July, 1849, the inmates, as well as the inhabitants of the neighbourhood, were in excellent health. On the evening of that day, after working in the harvest field, Jacob Sloanaker, aged 64, John Sloanaker, aged 21, and Joseph Spranger, aged 15, were attacked with symptoms of cholera, and died between half-past five and half-past six the next morning, all of them within twelve hours of the time of the attack.

On the same day, near midnight, symptoms of a violent diarrhœa appeared in Michael Sloanaker, aged 27, and in one of the females, aged 29. Michael S., after a succession of relapses and improvements, died on the seventeenth day. The female, who had only diarrhœa and occasional emesis, not characteristic, recovered.

On the fourth day, 15th July, three of the females were attacked by diarrhœa and vomiting, but all recovered.

On the seventh day, 18th July, a well-marked case of cholera seized upon Joseph Upperman, aged 26 years, who died in eighteen

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hours from the commencement of his symptoms. At 8 A. M. he had diarrhœa; at 2 P. M. he collapsed, and at 2 the next morning he died.

On the 10th day, 21st July, one of the females was affected by diarrhœa and vomiting with cramps, but no characteristic discharges. She recovered. On the 11th day, Dr. Sloanaker was similarly affected, but also recovered.

Eleven cases, therefore, occurred in a population of fifteen persons. Five females and one male recovered, and five males died. The three carpet-weavers and one female remained in good health throughout the attack, although they eat at the same table and slept in the same atmosphere with the rest.

We have here the entire history of an epidemic. Most of the people complain—some are sick only with diarrhœa, some have diarrhœa and vomiting, some have diarrhœa, vomiting and cramps; and five (all who died) had, three of them, sudden violent characteristic attacks at the onset, and two, after sundry premonitories, collapsed and died.

Doctor Sloanaker writes that "the neighbourhood was perfectly healthy until the 12th, the day *after* the first cases of cholera had occurred, when several cases of cholera morbus with cramps were seen; within eight or ten days, dysentery became epidemic, and carried off several persons in the vicinity." Only one other case of cholera asphyxia, that of Dr. Joseph Griffith, who died of it, was known to have ensued in that neighbourhood. He had not seen, nor been in contact with any of the above-described cases.

At the time of the occurrence of these cases of cholera, no member of either family, with the exception of one of the carpet-weavers, had visited Philadelphia for upwards of three weeks. The carpet-weaver had been there *about a week* previously, but remained in good health throughout the attack. It should be observed, too, that old Mr. Sloanaker and his son John, two of the first victims of cholera, did not live in the house with the carpet-weaver, although they necessarily came into proximity to him and the materials for his work.

If this were a case of contagion, it must have remained latent for more than three weeks, and then have broken out simultaneously in the person who had been to Philadelphia and those who had not been there; or if assumed to have been brought by the carpet-weaver, who remained well, we are left in the difficulty of supposing that the disease is so contagious as to be carried twenty-six miles by

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one who does not himself suffer, and yet is so non-contagious as to fail to spread to the neighbours and visitors of persons really and sorely affected.

The difficulty of believing it so personally transmissible is farther increased by the frequency of such examples as the remarkable one described in the *Medical Examiner*, by one of the Committee, Dr. Francis West, of Philadelphia. At Cape May, when thronged with visitors, and when the place was remarkably healthy, a robust female servant, who had been for about a week absent from Philadelphia, was seized with all the marked symptoms of epidemic cholera, viz., diarrhœa, followed by vomiting, cramps, ricy dejections, lividness, cold tongue and breath, corrugated skin, husky voice, &c., and died within eighteen hours of the commencement of urgent symptoms. In this case, calomel, in one-grain doses, was given every ten minutes, and continued for some hours, but without any perceptable influence whatever. No other case ensued, although many persons were in close proximity to the case, and were the more liable because absent from home and careless of diet.

At the poor-house at Pittsburg, in a pauper population of seventy or eighty persons, only one became affected with cholera, of which he died. Dr. Mowry informs us that although diarrhœa prevailed to a certain extent, no other case occurred in the establishment.

Dr. McPheeters states that, "From the beginning of January to the close of the epidemic, there was a constant influx of cholera patients into the St. 'Louis Hospital, requiring the constant attention, day and night, of numerous nurses and assistants, male and female, yet in *no single* instance did any one of them suffer from the disease."

Perhaps the most remarkable case, as bearing upon the question at issue, is given to the Committee by Dr. S. Hanbury Smith. In a frame building at the corner of Plum and William sts., in Cincinnati, there lived about thirty-three persons. Of these, eight boarders occupied four of the largest rooms, sleeping only two in each room, but the other smaller rooms were occupied by whole families, for every domestic purpose, from five to eight persons residing in each room. Of the twenty-five persons who were thus crowded together in the small rooms, twenty-three died of cholera, whilst of the eight who slept in the larger rooms, not one was attacked by that disease, although they assisted in nursing those who were sick. Dr. Parry, of Indianapolis, informs the committee that at least five cases of imported cholera died in that place, without any extension to the people of the place.

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Besides these and a thousand similar examples of the non-extension of cholera, there are some general arguments against its contagiousness, which seem to have great weight. Contagious diseases, indisputably such, require a considerable period of incubation, as might be supposed where the reproduction of the poison in the system creates the disorder. No such disease is demonstratively active until after a period of at least seven, and in most cases nine days from the time of exposure. But the poison of cholera acts apparently in many cases almost immediately. The detachment of troops who left a perfectly healthy camp at Saugur, in India, marched in the afternoon a few miles, and encamped on the borders of a small lake, were attacked by cholera before midnight, and by noon next day the number of cases was so great as to disable the corps completely. Although the sick were taken immediately back to the old camp, no one of its large force acquired the cholera.

The occurrence of cholera under similar circumstances, and in a single day or even part of a day, is a common incident in East Indian narratives. At Nagpore, where cholera prevailed, a detachment of troops previously in perfect health, "had scarcely taken possession of their quarters, when it appeared among them in a violent manner." Even on the first day, one individual was affected, but on the next it appeared with great violence and fatality.

Many cases of apparent contagion are thus presented. Travellers of the lower orders, wearied, hungry, and friendless, arrive in places in which the choleric disposition is accumulating, and, according to the law just cited, become sick in the course of the night of arrival. The places to which they resort, the people among whom they are lodged, favour the action of the poison, and the explosion is thus too often laid to the charge of personal contagion.

Another great general objection to the doctrine of the contagiousness of cholera is presented in the acknowledged fact that it is producible by imprudence in the use of food and drinks, is excited by the circumstances which surround the poor and destitute, and attacks people of advanced age rather than children. Who does not know that all other contagious diseases are produced simply by exposure to the one cause, contagious matter. Did a heavy dinner, a prolonged debauch, or a loaded atmosphere ever produce a variola, a rubeola, a scarlatina, or a pertussis?

The preference of the disease for people of mature age is also a great peculiarity of cholera, and does not pertain to any known contagion. Captain James Welsh, of the ship Silas Richards, which

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sailed from Helvoetsluys on the 10th of November, 1848, says, in answer to some questions put to him by a member of this Committee, that although cholera prevailed in his ship until, in her passage to Baltimore, she had passed the Azores, the children on board remained in perfect health.

At Boston, in the epidemic of 1849, only one-eleventh of the mortality by cholera fell upon children under five years of age, whilst the mortality at that age, in ordinary seasons, is about one-sixth or nearly twice as great. The increased mortality, therefore, fell chiefly upon adults. The mortality in proportion to the number living at different ages should be as follows:—

From	0 to 10	10 to 20	20 to 30	30 to 40	40 to 50	50 to 60
	78.08	68.72	63.52	57.46	50.63	43.04
By cholera,	103.	54.	169.	174.	91.	41.

Instead of following the proportion of the survivors at any age, therefore, the mortality by cholera was greatest between the ages of thirty and forty, when it was proportionally twice as great as from birth to ten years. The same result is obtained by reference to other places in which exact statistics can be obtained.

In his very lucid report upon the late cholera at St. Louis, Dr. McPheeters says, "of these 2,173 deaths among children (under five years), only 526 are reported as having taken place from cholera; from which fact it appears that it showed at least some respect to the tender age of infancy."

Now, we know that acknowledged contagions fall most readily and heavily upon children under ten years of age, whilst general diseases not of an acknowledged contagious character assail them less frequently and with less violence.

In an excellent paper in the *New Orleans Medical and Surgical Journal*, for Sept., 1849, written by Dr. F. A. Bates, he observes that, "during his practice in Alabama, there has been only *one* epidemic of scarlatina in his neighbourhood, and that was in the winter of 1843–44. In its extent it embraced about eighty cases, including children and adults, *although the disease was confined chiefly to small children.*"

For these reasons, numerous and cogent, we believe that cholera is portable but not contagious, that it is dependent for its accidental power, rather upon density of population and personal uncleanliness than upon any other causes. An atmosphere highly charged with emanations from living bodies seems to be the chief stimulant of the choleric influence. Next to this, the most powerful auxiliaries seem

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to be habits, passions, and food of a depressing character; whilst the influences of every kind which usually determine the blood to the intestinal surface give to the diseased agency its most dangerous direction.

The Committee have not sought for facts from published or foreign sources, preferring new facts to old ones, because it is always desirable to add to the present amount of actual knowledge, and because these facts are authenticated by gentlemen upon whom we can rely the better for our personal knowledge of their worth and accuracy.

Entrusted with the subject of epidemics, the committee would have been pleased to have had space for an extended examination of the question of the origin of YELLOW FEVER—a subject of the greatest possible interest to the commercial cities of our southern regions. But a single year would scarcely suffice to do justice to a subject of such extent and magnitude. We, therefore, respectfully suggest the propriety and expediency of committing this subject and some others of like importance to special committees, who may, if thought proper by them, report progress at each annual session of the Association, and obtain leave to extend their researches through several successive years. By such means, a more minute and exact examination may be made of each subject, a greater number of members of the Association may be interested in its active business, and a most important addition may be made to the present stock of knowledge.

In conversation with even the most obscure members of the Convention, we are surprised at the great amount of peculiar and useful knowledge displayed by them, and feel assured that any scheme by which such knowledge could be concentrated and published would redound greatly to the honour of the profession and to the good of society.

During the year which has elapsed since the meeting of the Association in May, 1849, but little novelty has presented itself, either in the progress of the common diseases of the country or in the mode of treating them. Yellow fever, which had not appeared as an epidemic in Charleston since 1839, showed itself in considerable virulence in 1849. The first case, as is usual in this epidemic, appeared in the person of a sailor, and led to the usual dispute about importation and domestic origin.

The same disease has also become epidemic in the towns of the coast of Brazil. In 1688, we believe it appeared at Olinda for the last time; but until the summer season of 1849 it had never appeared in Rio Janeiro. This singular outbreak attracted the atten-

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tion of the Committee, and induced it to address a letter to the eminent surgeon, Dr. Harris, at the head of the Naval Bureau, requesting him to call the attention of the accomplished medical officers of our navy upon that station to this singular fact, with the view of giving to the whole subject, in this novel aspect, a thorough examination. His reply assured us of his hearty co-operation with the Association, and informed us that orders should immediately be issued in conformity with our request.

Scarlatina and variola have been unusually prevalent during the past year, and the former malady has, in many unusual places, been attended by much loss of life. Inquiry has led the committee to the conclusion that some important information respecting its treatment, although published in the most commonly read works, has been overlooked by even the best informed physicians. Twenty years ago, or more, the German Hufeland called especially the attention of the profession to the then little used remedy of chlorine in scarlatina. The readers of works in the English language were long after informed by Dr. Watson, of London, that by the use of chlorine much of the dread of attendance upon this disease was removed from the minds of some of the most distinguished London practitioners of medicine. The remedy has been tried here with great apparent success in several epidemics. The most convenient mode of using chlorine is by adding to ℥ss of the solution of chlorinated soda (Labarraque's) from ℥iv to ℥vi of water, of which a tablespoonful is to be given to a child of from four to five years of age four or five times a-day. At the same time, a stronger lotion made of the same materials should be applied to the skin. This practice has a value as a disinfectant, but seems also to correct the tendency of the disease to lessen the fibrin, and increase the red globules of the blood. The apparent efficacy of this plan of treatment is great, but as scarlatina is exceedingly variable in its proportional mortality in different years, there is yet wanting a more extended proof of its value.

Too little professional attention has been paid to the subject of the prophylaxis of belladonna against the inroads of scarlatina. A careful examination of the recorded evidence shows that no professional point rests upon higher proof than this. One of this Committee having been impressed by the force of the evidence, endeavoured to put it to the test of a prolonged and varied experiment, with results of the most favourable character. It is true that either scarlatina, or some disease very like to it, is often far from being readily

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propagated by contagion, whilst at other times it is rapidly disseminated from person to person. This fact renders very difficult a satisfactory solution of this question; but it may not be amiss to say that with one single failure out of thirteen experiments made in several different years, scarlatina has been apparently divested of its contagious power when treated by belladonna. In the last experiment recently made, one of eight children in a single family was attacked with severe, well-marked scarlatina. The other children being immediately placed under the use of belladonna, were permitted to have constant access to the apartment of the one attacked. All of them escaped the disease. Without segregation, so far as the subject has been examined with but one exception, the unprotected have been thus preserved from the disease. The greatest difficulty lies in the scarcity of good extract of belladonna. But this may be obviated so soon as the demand will justify experiments for its better preservation. The best formulary is that which holds the alcoholic extract in solution in camphor water, and of this a quarter of a grain a-day may be administered to a child of three years of age. These suggestions are made chiefly with a view to attract the attention of rural physicians to an experiment which may be best examined in the very limited localities in which they reside.

The growth of typhoid fever in every part of the Union gives additional interest to whatever may throw light upon either its nature or treatment. As yet, the looseness with which the term is used renders it difficult for the inquiring reader to know whether the typhoid of Louis or a typhous state of some one of the malarious fevers of the country is to be understood. In very few papers do we find a single autopsy to confirm or refute the validity of the name given to the disease, and in still fewer are the symptoms so described as to convey any assurance of the exact nature of the malady. These defects arise neither from want of knowledge nor a disposition to give clear information, but rather from inexperience in the composition of papers, and the careless habits acquired by the irregular life of a busy physician. One advantage of the distribution of subjects to special committees, would be the issue by each of an interrogative formulary, so that societies and individuals might know how to give the information upon which rich reports could be founded. The knowledge now concealed in modest retreats might thus be concentrated in the Association, to be, by its authority, diffused over the world.

In a good paper upon the diseases of Dallas County, in Alabama,

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we find a disease of low type, called typhoid fever, in which the very marked remissions and the early convalescence or death induce us to have a doubt of the correctness of the diagnosis, and to wish for the demonstration of an autopsy. The mortality, 8 in 16, is also much greater than is usual in typhoid fever, and no allusion is made to the *taches rouges*, either in time or circumstance. The importance of a correct diagnosis is in such cases of the utmost importance, because, if remittents, they require mercurials and quinia; if typhoids, alteratives, styptics, and stimulants.

In another paper by Dr. J. C. Clark, of Alabama, more prolonged cases of fever, with eruption and diarrhœa, exhibited, *post-mortem*, the proper lesion of typhoid fever, and thus clearly proved the truth of the assertion that this fever is making its way gradually to the South, even in miasmatic regions.

The Committee would have been pleased to have been able to make a more extended survey of the subjects committed to their charge, but believe that a mere summary would have been both tedious and useless, and that the Association will be more benefited and pleased by a thorough examination of a few important points than by a superficial report upon many. We hope that by means of special committees each subject may be hereafter examined in a manner to gratify the proper pride of the profession, and to extend with increased speed the knowledge of American medicine.

J. K. MITCHELL, M. D., *Chairman.*
R. LA ROCHE, M. D.,
FRANCIS WEST, M. D.

NOTE.—The rest of the Committee, Dr. Arnold, Dr. Swett, and Professor Jones, have not had an opportunity to sign the report, because of their unavoidable absence from the meeting of the Association.

As appendices to our Report, are subjoined a short notice by Professor Pancoast of a new view and treatment of aphonia, and another by Dr. Joseph Reynolds, of Gloucester, Cape Ann, Mass., upon the relation of epidemic fever with a subsequent epidemic dysentery.

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B.—1.

On the Cure of a Particular Form of Aphonia by the Inhalation of a Stimulating Vapour. By Dr. PANCOAST.

THE form of aphonia here alluded to is that which many practitioners must have met with, following an ordinary cold, without leaving any perceptible organic lesion in the pulmonary apparatus. The voice is reduced to a faint, hoarse whisper, distinguishable only at the distance of a few feet, and a continued attempt to talk, though it gives no pain, becomes quickly attended with a feeling of fatigue as though there was some obstruction to the passage of air through the larynx. In breathing merely, there is little or no difficulty in these cases, as the individuals are capable of undergoing considerable exertion without very unusual signs of fatigue.

The difficulty has appeared to me to be in the paralyzed condition of the muscles of the larynx, whose business it is to dilate the rima glottidis during the act of articulation.

Having had an opportunity several years ago to observe these movements of the vocal chords in a patient in the Philadelphia Hospital, who had made an abortive attempt at suicide, and was left with a cicatrized wound opening into the ventricles of the larynx, I watched with great interest the play of these vocal chords, which were fully exposed to view, and was astonished at their frequent, varied and extensive movements. The two chords would sometimes be drawn widely asunder so as to leave a clear gap of full half an inch in width their whole length, giving a fuller tone to the voice; at other times, as in whispering, they would nearly close, leaving but a narrow fissure. In the ordinary manner of speaking, each chord would be moved outwards and inwards with great rapidity, and the two would be several times brought tightly together in the utterance of a single word or many syllables. There seemed, however, to be no regular law of motion, that either Dr. Dunglison or myself, who observed the case with as much care as the irritable and somewhat insane patient would allow, in the utterance of any particular tones or words.

From the evidence I thus obtained in regard to the motion of the vocal chords, I was led to infer that this form of aphonia arose from

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a partial paralysis of the intrinsic muscles of the larynx, and that to cure it, it would be necessary to stimulate them into action.

My first case occurred about eight years ago. The patient was a healthy young country girl, who had contracted a severe cold by remaining in a damp spring-house. The aphonia had lasted for six months, resisting every sort of treatment.

I placed her upon the inhalation of chlorine, with the following simple apparatus.

I took the ordinary tubulated glass retort of the chemist, with a glass funnel having some filtering paper at the bottom. In the bowl of the retort I placed a solution of the chloride of soda or lime. Into the glass funnel was put a weak solution of muriatic acid in water. As the dilute acid fell drop by drop into the bowl of the retort, chlorine was very gradually liberated, and breathed from the end of the instrument. The inhalation was continued for some minutes, and repeated two or three times a-day, according to the degree of irritation it produced in the throat and larynx. From the first trial, the patient's voice improved, and in three days had become very nearly as strong as ever. A couple of months after her return to the country, another cold was followed by a similar case of aphonia. The patient again breathed the dilute chlorine vapour for a few times, and had her voice restored.

During the last month, I have treated Dr. Throop, an eminent practitioner of Luzerne county, Pa., for the same affection, by the chlorine inhalation. His voice had been lost for about seven months, so that he was unable to practice his profession. Besides exhausting the more ordinary means resorted to in these cases, he had made, without any good effect, repeated trials of a strong lunar caustic solution applied with a sponge to the glottis.

His voice began to improve from the first trial of the chlorine. The improvement was steady, but more slow than in the case above detailed, a week or ten days elapsing before his voice was restored to its natural strength.

Some care is unquestionably required that the acid solution should not be allowed to drop too freely on the salt in the bowl in the retort, so as to develop the gas too freely. But the patient has the means of protecting himself against too strong an impression of the chlorine on the glottis by diluting it with air drawn in through the nostrils, a measure to which he would instinctively resort.

I presume that the chlorine acts merely as a local stimulant, and that iodine or any other exciting vapour would effect similar results.

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B.—2.

An Account of the Typhoid Fever and Dysentery, as they have appeared in the Epidemic form, during the last four seasons, on Cape Ann. By JOSEPH REYNOLDS, M. D., Gloucester.

CAPE ANN, which makes the northern arm of Massachusetts Bay, is a rocky promontory, consisting almost entirely of ledges of granite. The soil is a coarse gravel. In the valleys, between the ledges, there are deposits of alluvium. These spots are very fertile. There is little, if any, clay upon the cape. About five miles from its eastern extremities, it is intersected by a creek, through which the tide-water flows from Massachusetts Bay into Ipswich Bay, which makes up on its northern side. On this creek are somewhat extensive marshes, which, at high tides, are covered with salt water, thus making the eastern part of the cape an island during high water.

The botany of the cape is very rich, much more so than one would suppose who remembers only its rough and forbidding masses of granite. The intermingling of fresh-water plants with marine plants, in the nooks and coves which thickly indent its shingly border, affords an interesting study to one who has a taste for such pursuits.

The population of the cape is about eleven thousand.

Sporadic cases of typhoid fever and of dysentery have occurred among us from time to time, but they have been comparatively rare. In 1822, dysentery prevailed on the north side of the cape, on the shore of Ipswich Bay, and was very fatal. In the autumn of 1833, typhoid fever prevailed on the eastern and north-eastern margin of the cape. Fifty cases, many of them severe, occurred in my practice, three of which proved fatal. The preceding summer had been unusually hot and dry. During September, it was with difficulty that water could be obtained for the necessary purposes of life. The disease commenced in the latter part of August, and continued into December. From that year to 1846, cases occurred occasionally on different parts of the cape. In the latter year, it appeared as an epidemic on the south side of the cape, at Gloucester Harbour.

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The first case came under treatment on the 20th of August; cases continued to occur, and by the 20th of September there were thirty cases in one small neighbourhood. The whole number that came under treatment in that neighbourhood, during the autumn, was forty. In three houses, there were three cases in each. In three other houses, there were five in each. The houses were all good; several of them large and airy. The families were all in comfortable circumstances; some of them among the more wealthy portion of our population. These cases, with one or two exceptions, all occurred within forty rods of a common centre. The two streets on which they occurred are wide, constructed on a soil of hard gravel, and well drained. On the west side of this district, and but a few rods distant, a large quantity of earth had been moved during the winter and autumn previous. A small hill had been cut through, and the ground carried forward to fill up a hollow, to make a foundation for a railroad depot; an embankment some forty feet wide, from four to ten feet high, had thus been formed, extending some thirty rods in length. On the north-east side of the district, a swamp of some acres in extent had been broken up and burnt over during the winter and spring. The summer was very dry; the wells in the district, of which there are but few, owing to the ledges of granite, were very low. Of the whole number who were sick, three children under puberty, and one woman, who was the mother of one of the children, died. A large proportion of the cases were strongly marked typhus fever, while others were of much milder type. Many of them were protracted, and convalescence was tedious. I am not aware that there were any peculiar symptoms attending this epidemic, or that there was anything worthy of remark in the treatment, which was generally of a mild and expectant character.

In the latter part of the following February, a well-marked case of typhus occurred in a woman of fifty-six years of age, which terminated fatally in three weeks. Immediately after her death, her youngest daughter, aged twenty, who had attended her, was taken down. In three weeks from that time, an older sister, who had been absent during the sickness of the mother, but returned home at her death, was attacked. Both these young ladies were long and exceedingly sick, but ultimately recovered. Three weeks from the sickening of the second daughter, an aunt, a sister of the deceased, was seized. She had most faithfully attended the young ladies from the commencement of their sickness. Her disease was milder, but lasted six weeks. Before the recovery of this last patient, the only son of

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the deceased, a lad of about seventeen, was attacked; his disease was severe, but less protracted than the others. After all the other members of his family were convalescent, the father, who had been unremitting in his attendance upon the sick for more than four months, was taken down, and underwent the disease in a most wasting and protracted form, but ultimately survived. This family resided less than a quarter of a mile from the centre of the district in which the fever prevailed in the autumn. I do not know that the disease in this family can be traced to any intercourse with the autumnal cases; but as it occurred at so unusual a season of the year, and was so very severe, I have thought it proper to describe it. Among the persons who were in this family, as visitors, watchers, and nurses, only one case of fever occurred, and that of mild character. Several cases of typhus occurred during the autumn of 1847, one of which, a young man who had just completed his classical education, terminated fatally.

About the 20th of August, 1847, dysentery began to make its appearance; cases rapidly increased, so that by the 10th of September, there were probably fifty cases under treatment in the village. The cases which occurred previously to this date were generally of a severe character; after this date, they began to assume a milder form. Scarcely any terminated fatally that commenced after the date above indicated. Seven adults and several children died who were attacked before it. Several of the most severe cases occurred in the same locality in which typhus fever had so generally prevailed the previous year. In that district, dysentery visited nearly every house, and destroyed seven children and five adults. One of the adults was an old lady eighty-four years of age. Two others were highly educated, delicate young ladies, twins, about twenty years of age; the first lived eighteen days; the second was attacked two or three days before the death of her sister; at the commencement, she had a strong presentiment that her disease would prove fatal, although the symptoms were very mild; unfortunately, her presentiment was realized, and in about the same time that her twin sister lived after the attack, she went to join her in another world. Another case was a married lady, about thirty-seven years of age; and the fifth a young man. In this connection, one circumstance is worthy of remark; the same families living in the same houses that were visited with typhus in 1846 were visited with dysentery in 1847. Yet so far as I can now recollect, not a single individual who had typhus in 1846 had dysentery in 1847.

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In the family in which the two young ladies died of dysentery, two of their sisters had typhus in 1846, and the twins escaped. In 1847, the twins died, and their sisters escaped the dysentery. Should further observation show that the having undergone typhus fever affords, for a time, immunity from the dysentery, and *vice versâ*, that the having undergone dysentery secures from typhus, will it not go far to prove, if not the identity of the nature of the two forms of disease, at least the identity of the cause or causes which give rise to them. If the person who has had typhus becomes, for a time, insusceptible to the action of the cause of dysentery, or incapable of allowing the development of the latter disease, one of two inferences naturally follows: either that the cause of both is one and the same, or, if the causes are distinct, that they make their first impression upon the same organs, or, if you please, upon the same nervous centres. The similarity between typhus and dysentery has been often remarked. This was strongly manifested in this epidemic. In the cases that continued three weeks or more, the expression of countenance, the state of the skin and of the tongue, would lead the observer who was not aware of the true state of the case to suppose the patient to be in an advanced stage of typhus. Another circumstance in which this epidemic resembles typhus is that it was disposed to confine itself within certain fixed bounds. It was limited principally to two neighbourhoods; one that which has been already specified, the other commencing about a mile north of this, and extending a little more than half a mile. In the intervening mile, although more than thirty families reside, only two or three were visited, and only one severely by the disease. In the northern district, nearly every family was attacked. In one family, living upon a farm, in a large airy house, the father, mother, and five children underwent the disease in the most severe form. The eldest daughter, about twenty-two years old, the last one attacked, died after three weeks of intense suffering. For some days before death, the whole of the mucous membrane lining the mouth and covering the tongue resembled in colour and consistence a layer of wet sponge. Three cases in this family were followed by rheumatism. Late in the autumn, a few cases occurred in a location a mile to the west of the district first mentioned, but none in the intervening mile. In the main street of the town, which is thickly inhabited, and which extends a mile and a quarter, running in the immediate vicinity of the wharves and landing-places, not more than one or two cases occurred in its whole extent.

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In March, 1848, four or five cases occurred in two contiguous houses, in each of which one child died. In the autumn of this year, the disease again prevailed to a considerable extent. It was spread over a large surface, and, for the most part, those localities in which the disease had prevailed in 1847 escaped entirely. Other neighbourhoods, in which not a case had occurred in 1847, suffered most severely in 1848. Several adults and many children died during this epidemic. The typhus character of the disease was strikingly marked in many of the severe cases. In 1849, dysentery prevailed quite extensively among children. There were a good many cases among adults, several of which proved fatal. This year the disease showed an obvious tendency to attack individuals, and families, and neighbourhoods, that had escaped the two previous years. In one house containing two families, eight cases occurred, four of which, all children, terminated fatally. There were many cases of diarrhœa this season. Many of the cases that were called dysentery, were rather bilious diarrhœa. Well-marked cases of dysentery, however, were of frequent occurrence. Eight cases of cholera occurred during the season, four of which terminated fatally. They were all preceded by diarrhœa. Several cases of dysentery in each of these years were followed by rheumatic affections, which, in some instances, lasted for many weeks.

I have no means of ascertaining the whole number of cases that occurred in either of the above-described epidemics, or the number of deaths in proportion to the whole number of cases. With respect to treatment, I have but few remarks to make. In the mild cases, any reasonable treatment conducted the disease to a favourable termination. Many of the severe cases terminated fatally, whatever mode of treatment was pursued. My preceptors taught me to treat dysentery with cathartics, followed by opiates; and for twenty years I pursued this practice, with entire satisfaction. At the commencement of the epidemic of 1847, I pursued the method to which I had been accustomed. After losing several patients, I omitted the cathartics in great measure, and treated the disease with mucilages and opiates, but with even less success than under the former method. At the close of the epidemic, I found myself using cathartics freely, and with entire success, owing, in degree, no doubt, to the less virulent form of the disease. It was often remarked that where cathartics were not much used in eighteen or twenty days from the onset of the disease, discharges of scybalæ commenced, and for a long time annoyed the patient. In 1848,

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cathartics, followed by decided doses of opiates, constituted the main feature of my treatment. In 1849, the same general plan was pursued; many of the cases this year exhibited more of the character of bilious diarrhœa than in previous years. These cases required less cathartic medicine than the more simple form of dysentery.

Toward the close of the epidemic, several cases were treated on the following plan, which, in most cases, limited the disease to a week, and in all was perfectly successful:—

First, a cathartic was given; when free fecal discharges had been obtained, half an ounce of the following mixture was given every two hours—

℞.—Mucilage gum Arab.	℥ii.
Sugar	℥ss.
Kreosote	gtt. xviii. 18 drops,
Tr. Camphor,	
Chloric ether	āā ℥ss.
Water	℥iii.

In some cases, it was given every hour; opium was given at night, according to circumstances. This treatment generally arrested the muco-sanguineous discharges and the tormina within twenty-four hours, and convalescence at once commenced. What would have been its effect at the commencement of the epidemic, I cannot of course say; but I think it worthy of a further trial. During the summer and autumn of 1849, scarcely a case of typhus fever occurred, and but few of typhoid, on that part of the cape where dysentery prevailed.

On its eastern extremity, four or five miles distant, there were some fifty cases of typhoid fever, several of which terminated fatally. In this district there was but little dysentery. I have thus given a brief sketch of these epidemics as they have appeared among us during the past four seasons; I have spoken of the two forms of disease in connection, because they were to some extent blended together, and because they seem to me to have had a common origin, and several characteristics in common. I have spoken of typhus and typhoid as only different degrees, or different forms of the same disease. This seems to me to be the only correct practical view of the subject. I know, indeed, that a different theory has been put forward by high authority. But when I see the two forms of disease intermingled in the same epidemic, and in the same family even, at the same time; and when I observe the exposure of healthy

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persons to the disease in one form, followed by its appearance in the other form, just as the exposure of the unvaccinated to varioloid gives rise to variola, and the exposure of the vaccinated to variola gives rise to varioloid, I cannot resist the conviction that they are essentially the same disease—that they differ only in form or degree.

As a large portion of the surface of our cape has now been burned over by one of the forms of disease above described, I trust we shall enjoy a good degree of immunity from their attacks for some years to come. Perhaps, indeed, a different result may follow, and we may find that they have taken their place among our permanent annual diseases.

Time will solve the problem.

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D.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION.

The Committee on Medical Education respectfully submit the following

REPORT.

THE subject of Medical Education has been thoroughly discussed in the Association, the profession, and the journals during the last three years. Three formal reports have been laid before the Association, containing a full account of the general condition of medical education in this country and abroad, representing its defects, and recommending various measures of reform. The Committee feel, therefore, that the Association is in possession of all the facts essential to a correct comprehension of American medical schools, and that they may safely omit from the present report many of the more special subjects which have occupied the attention of their predecessors.

The records of the discussion thus far embrace, as in most cases where practical subjects have been submitted to abstract investigation, a somewhat intricate intermingling of *facts* and *opinions*.

The *facts* include a statistical history of the schools, professors, students, and graduates; their situation, quantity, kind and means of instruction; preliminary and ultimate requirements, mode of examination, and other important particulars.

The *opinions* relate chiefly to conclusions thought to be deducible from the *facts*. So far as they have assumed a definite form, they assert, first in general terms, that the system of medical education in this country is defective. Second, that it is so because the number of schools is too great, their situation (in many cases) bad, their instructors too few, their students and graduates too many, the time devoted to instruction too short, the quantity too limited, the quality too superficial, the bestowal of honours too profuse, and the mode of bestowal too unrestricted; all this involving, inevitably, a

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depreciation of the profession, and an impairment of the dignity, honour, and usefulness of the healing art.

The position of the Association, in relation to this subject, has been uniformly one of forbearance and conciliation. It has recommended that certain customs of the schools should be altered and amended. These recommendations refer mainly to the preliminary education of pupils, the requirements exacted from candidates for graduation, extension of the term of study, the manner in which the test for professional honours shall be applied, the mode in which teachers shall be appointed and supported, and some incidental advice as to particular subjects of study.

The schools have been disposed to meet the efforts of the Association in a spirit of cordial co-operation. Some of them have attempted to carry into practice its most important recommendations; and almost all have manifested a desire to contribute to the improvement of professional education. In no instance has any one of them, so far as the Committee can learn, assumed a hostile aspect towards the Association or its objects. Whatever reproaches may have been uttered against them for deficiency or delinquency, they have reason to feel proud that their relation to the Association has been, from the first, one of harmony and good will; that they have identified themselves with it, not to thwart or defeat its great designs, but to further their fulfilment; not merely for their own honour and their own interest, but for the advancement of science and the good of their fellow men.

The chief purposes of the Association in connection with the subject of medical education, have been—

1st. To elevate the character of preliminary preparation.

2d. To secure to the student, during the portion of his pupilage passed in the public schools, competent and complete instruction.

3d. To provide for the application of a severer test of qualification for admission into the profession.

The Committee propose, therefore, to confine themselves to a concise consideration of these three points.

1*st. Preliminary Education.*

Neither public nor private teachers of medicine can deny that many of their pupils come to them imperfectly and insufficiently prepared. Aside from the deficiencies which immature age almost necessarily implies, it cannot be gainsayed that a considerable number of medical students in this country enter upon their professional

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education with a limited and inadequate amount of proper preliminary training. The fact admitted, the question follows, Where is the fault, and where lies the remedy? A full solution of this question would impose upon the Committee a more difficult duty than they desire or design to fulfil. They only suggest that the blame and the remedy should be equally shared by the *profession*, the *schools*, and the *student*.

The *profession*, occupying an intermediate relation to the student and the schools, should abstain from offering to the student any enticement or encouragement not based upon a right knowledge of his character and capacity.

The *schools* should have the firmness to reject all importunity not sustained by real and appreciable qualification. With reasonable allowance for difference of original capacity, means, and opportunity, it should be their habit, as it is their duty and their interest, to see that the reputation and usefulness of the profession, of which they are, in some sense, the recognized guardians, receive no detriment through the admission of the incompetent and unworthy.

The *student* should be told, frankly and plainly, by those who have the best right and opportunity to do it, that nothing can compensate for lack of physical, intellectual, and moral fitness for his vocation; that his position in a profession for which he has none of the essential pre-requisites must ever be a false one, and that he has no just claim to its "honours and immunities," without faithful, continued, industrious application. The burden is a common one, and should be equally borne. So far as the schools are concerned, the best boon that could be bestowed upon them would be to ensure to them intelligent, tractable, and ambitious pupils. No public teacher would reject such a gift. His work is attractive or repulsive in exact proportion to the degree of mental correspondence between himself and those who listen to his instructions. To suppose that the schools do not desire the greatest amount of ability and culture in those who seek their halls, is as absurd as to suppose that the recruiting officer would prefer to enlist dwarfs, cripples, and idiots. There is not a teacher of medicine, from the St. John to the Sacramento, who would not confess that all the irksomeness of his daily duties, and all the doubts of his final decisions, are dependent upon the intrinsic and essential unfitness of the ignorant and the indolent; and that all the pleasures of a position which, however eagerly the ambitious aspirant may covet it, often involves much self-sacrifice, spring from his relations to the well-trained, the industrious, and the intelligent.

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The Association has attempted to obviate this difficulty by urging upon the profession and the schools certain recommendations, which as yet have not been fully complied with. Neither of the parties most interested seems willing to assume the responsibility. The student dislikes to have his self-complacency offended; the practitioner fears to hazard the good will of the student; and the school, it is feared, is often too anxious, lest the portal of some active rival should be found of easier access than its own. Hence, with the defect generally admitted and deplored, it does not appear that hitherto much has been done towards applying any efficient remedy.

[Dr. Blatchford, of Troy, N. Y., a member of the Committee, states in a note appended to this report, that "local medical societies, in States where an organization has been effected, have, however, to a limited extent, adopted the plan of a preliminary board of examiners, a certificate from which is required of the pupil before entering the office of any one of the members as a student."]

2*d. The Association has endeavoured to secure to the student competent and sufficient instruction, during that portion of his pupilage which is passed in the schools.*

The charge has been somewhat pertinaciously repeated that the student, after entering the schools, is often imperfectly and insufficiently taught; that there are schools badly situated, scantily officered, and meagrely equipped—unable, in short, to fulfil their promise to provide a proper course of public instruction. The Committee are not in possession of the name of any particular school against which, justly or unjustly, this charge has been openly and directly alleged. If there be a single school fairly deserving such an imputation, it is hoped that no false compassion will interpose to shield it. After three years of consultation and discussion, it surely cannot be deemed unreasonable that this Association should discriminate between those schools which have its confidence and those which have not.

Practically, the Association has advised an increase in the number of instructors, and an extension of the period of instruction. It is not known that either of these recommendations has been generally adopted; as to the last, it would seem that the original design of the Association, which, as the Committee apprehend, contemplated a lengthening of the term of lectures without materially increasing their number (on the ground that too many were crowded into too short a time), has been somewhat misunderstood. Since, of late, it

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has been argued that the *completeness* of a course of lectures necessarily depends upon its duration, and that this is an indisputable advantage of the six over the four months' course. The schools also appear to differ in their understanding of this point; some of them having increased both the term and amount of instruction, while others have extended the former alone. Thus, in the institution selected by the committee of 1849 "as a model of the schools of our own country, whose rules and requirements are believed to be quite as full and extensive as those of any other institution, and whose trustees and professors seem to be as well disposed as any others to accede to the general wish of the profession, as expressed through this Association, to favour proper measures of reform"—although the lecture term is one of six months, the aggregate amount of instruction, as reported, is really less than in another school whose course continues but four and a half months. The Committee would suggest, therefore, that it should be fairly stated, by those schools in which the session is prolonged, whether there is, or is not, a proportional increase of the amount of instruction.

3*d*. *The Association has tried to provide for the application of a more rigid test of qualification for admission into the profession.*

It has proposed that the profession itself should have a voice and vote in deciding upon the worthiness, or unworthiness, of those who desire to enter it; and that, for this purpose, there should be boards of examiners composed of teachers and practitioners. Aside from any inclination or disinclination in the schools to consent to this arrangement, one thing must be yielded, that in this country admission to all the liberal professions must always remain comparatively easy. The nature of all our institutions supposes this. They must conciliate the public good will, upon which they are dependent for existence and patronage, by a liberal exercise of their powers and privileges. This is especially the case with new institutions in new States. It may be deemed doubtful, therefore, whether any uniform plan of medical education, or any uniform method of regulating admission to the profession, can be established throughout the Union. The Northern and Middle States, having a dense and wealthy population, accustomed to educational institutions, and able as well as willing to sustain them, are in a very different condition from that of the newer communities of the west and south-west. To insist that, regardless of these differences, all shall conform to an arbitrary standard, would be to insist, in the judgment of the

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Committee, upon something utterly impracticable. A disparaging comparison has been drawn between the system of medical education in other countries and in this. Admitting that American and European medical schools differ in the amount of exact training, rigid requirements and restraining discipline considered essential to the highest grade of intellectual education, it does not follow that it is practicable or desirable to assimilate them in all respects. There is no central power in this country able to originate or enforce a uniform system of laws regulating matters pertaining to general or professional education; and it is probable that an attempt to establish such a system would at once excite suspicion and opposition. Indeed, it is notorious that the friends of the only institution in the country* that approaches the best foreign schools in thoroughness of scientific and practical instruction, have been repeatedly called upon to repel the assaults of political jealousy.

The Committee have no wish to excite profitless discussion. They do not deny that American medical education may fall short when compared with that of the best European schools. Yet, after all the reproaches that have been uttered, and all the delinquencies that have been alleged, it does not appear that more severely disparaging epithets have been applied, rightly or wrongly, to an American degree, than were so strongly bestowed upon certain foreign degrees some twenty years ago; or that, even now, there is more content in the profession in Great Britain, with its Royal Colleges of Physicians and of Surgeons, or in France, Austria, and Prussia, with their stern restrictions as to what shall and what shall not be done, and who shall and who shall not do it, than at present exists in the United States.

The Committee have forborne from a more elaborate examination of the subject entrusted to them, from a conviction that it would be impolitic to multiply issues upon which the profession and the schools may differ. As to present action, they would recommend that the Association await the result of its advice to the "various schools of medicine to meet at Cincinnati before the next [this] annual meeting, and recommend and present a plan for elevating the standard of medical education to this Association."

Having fully and freely reiterated its opinions and wishes upon the subject, the Association has a right to expect from the schools an equally frank expression of theirs.

* The United States Military Academy.

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By a resolution passed at the last annual meeting, this Committee were directed to inquire into "the expediency of establishing a school, or schools, of pharmacy in the respective States, for the special purpose of preparing persons for the business of apothecaries; and also the expediency of adopting a rule that no physician ought to patronize a druggist or apothecary who deals in secret or patent remedies."

Schools of pharmacy already exist in several of the Atlantic cities. In New York and Philadelphia, these institutions have acquired a deserved reputation for capacity, industry, and usefulness; and there can be no doubt that the organization of similar schools throughout the country would be productive of great benefit. At present, the occupation of "apothecary" is open to all who choose to follow it; and there is scarcely a town or a villiage, from Eastport to San Francisco, in which one cannot buy drugs of all varieties of quality, and poisons of all degrees of intensity, from persons of all grades of ignorance and knowledge.

The expediency of adopting a rule that "no physician ought to patronize a druggist or apothecary who deals in patent or secret remedies," depends, in the opinion of the Committee, entirely upon the probability of its general observance. If, in the judgment of the Association, the sale of a single pernicious nostrum is likely to be checked by such a rule, a true regard for the interest of the public and the profession obviously prompts its immediate enactment, and its enforcement by all the pains and penalties the Association may have the power to inflict.

JOSEPH ROBY, *Chairman.*

NOTE.—The author of this report deems it proper to make the following explanation.

As chairman of the Committee, he prepared the report, and, in consequence of his inability to attend the meeting, transmitted it to Dr. Drake, of Cincinnati, with a request that it might be laid before the Committee before it was presented to the Association. The names and residences of the whole Committee were stated in the communication to Dr. Drake, and the report was sent to him as Chairman of the Committee of Arrangements, he having given notice publicly that it was his duty to receive the reports of committees whose members might not be present.

It was the intention of the writer to leave the whole subject in the hands of the Association. The report of 1849 had almost com-

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pletely exhausted all information in relation to the condition of medical education abroad; the statistics of American medical schools; the requirements of the army and navy boards; and the laws regulating the practice of medicine in the several states. It was not thought needful or desirable to go over this ground anew. Regarding the powers of the Committee as discretionary, it was hoped that the Association would not consider an omission of matters, which had been so fully treated of in previous reports, disrespectful to itself or a dereliction of duty in the Committee.

In the report, as read to the Association, an unintentional error existed which has been corrected. There was no motive or wish to do wilful injustice; the meaning of the writer was that but a limited number of the colleges of pharmacy "seem to be in active operation." In the transcription, the word "none" was unwittingly substituted for "few." The original opinion with regard to these institutions has since been fortified by the fact that, at the fourth decennial convention for reviewing the Pharmacopœia of the United States, which met at Washington on the 6th of May, 1850, but three of the whole number of schools and colleges of pharmacy in the country were represented; viz., the New York, Philadelphia, and Cincinnati Colleges.

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REPORT OF THE

COMMITTEE ON MEDICAL LITERATURE.

The Standing Committee on Medical Literature for 1849–50 *beg leave respectfully to submit the following*

REPORT.

In the general aspect of medical journalism, the Committee have to note but few changes during the last year. The number of periodical publications has been increased by two;* and the *St. Louis Medical and Surgical Journal*, which had been suspended since the disastrous fire of that city, has revived within the present year. A greater change has taken place in the brotherhood of editors, some of whom have withdrawn to other departments of professional labour; some have tired of their ill-paid toil and thankless duties; and some have been snatched away by the hand of death. The *Examiner*, the *Southern* and the *Charleston* journals, have lost in part, or wholly, the aid of gentlemen with whom their reputation was in a great degree identified. The *American Journal of Insanity*, the *Ohio Journal*, and the *Western Lancet*, have met with a severer loss, a loss which is indeed common to the whole profession, for BRIGHAM, BUTTERFIELD, and HARRISON were central lights in their respective spheres.

In the first, we were bereaved of one of those few men whose genius and studies fitted him for perceiving the metaphysical relations of medicine in the reciprocal actions of mind and body, and whose skill and devotion did much to achieve for the United States the high reputation it enjoys for the treatment of mental disorders.

In the second, we have lost a medical writer of rare sagacity and extensive information; one whose sprightly style, whether it sharp-

* The *St. Louis Probe* and the *Northern Lancet*.

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ened the critic's lash or sparkled with genial and wholesome wit, bespoke him an earnest and truth-loving man.

In the last, we mourn a cherished, though adopted, son of this thriving commonwealth, to which he devoted all the energies of an active and inquiring mind, quickened by a generous enthusiasm, and guided by the lofty principles of a sincere religious faith. No other native of the West did more than Dr. Harrison to organize and strengthen the medical profession around him; none more than he, by literary labour and public instruction, to diffuse a knowledge of his favourite pursuit, or, by the example of a well-spent life, to win for it the respect of the world. It was a worthy termination of such a career, that he should yield his last breath a sacrifice to an uncompromising sense of duty, and fall amidst the tears of those he had rescued from the destroyer. By such reflections must those members of the Association be consoled, who looked forward with satisfaction to meeting here one who bore a conspicuous part in its councils, and whom it had delighted to honour. May we not hope that the influence of his generous spirit may still survive in our deliberations, and inspire us with that zeal in the cause of humanity which is the best homage that can be paid to the memory and example of the just?

A complaint is often made that the number of medical journals published in the United States is excessive, but whether it is just or not depends upon the manner in which the subject is viewed. No doubt the *average* value of our periodical literature would be enhanced, were its quantity reduced one-half; but it may be strongly questioned whether the *positive* value of the remainder would be increased. At all events, there is good reason to believe that medical journals which have chiefly a local circulation, serve as schools in which unpractised writers may improve themselves. When they become contributors to journals of a more extended sphere, the latter reap all the advantage of their previous culture. Local publications, too, induce many persons, who would not think of approaching the more distant journals, to record their observations and reflections; they serve as a ready vehicle for conveying information to a large number of practitioners, and for drawing their attention to unexplored or neglected subjects; and they tend to unite the feelings and action of physicians within the region where they circulate, and in this manner to promote the interests of the whole profession.

It has been objected to the character of medical journals in this country that they are, in many instances, established by gentlemen

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connected with medical schools, and for the purpose, mainly, of sustaining these latter. It must, however, be admitted that the advocacy of particular institutions is seldom, if ever, offensively obtruded; for the most part, it is indirect, and rests upon the merits of the articles furnished by the professors. In this there is certainly no cause for blame; it is rather a laudable means of attracting attention to educational establishments, and of diffusing scientific knowledge in regions which would else participate but slightly in the onward movement of the profession. Persons who have been chosen for their superior acquirements to conduct the education of medical students, may very properly avail themselves of the press to address a larger and more enlightened audience beyond the college walls, and vindicate their ability as instructors.

A large proportion of the journals alluded to may, indeed, contribute scantily to the fund of medical science, or in some instances may perhaps do mischief by giving currency to crude or unsound doctrines; yet it is certain that, by means of materials borrowed from foreign and domestic sources of authority, as well as by a portion of their original matter, they disseminate a greater amount of good than of evil, and, on the whole, are useful auxiliaries in advancing science.

No one could be so exacting as to look for a high degree of scholarship or science in journals published at a distance from the great centres of population, where higher professional reputation rewards the exertion of talent; where the constant association of well-informed men keeps the mind alive to the reception of new ideas; where libraries and all other appliances for literary labour abound; and where the personal criticism of friends and rivals stimulates and encourages, while it chastens the efforts of those who aim at instructing the profession and themselves. Genius has never yet been able to dispense with such helps, and least of all in the departments of science which deal with external things more than with mental intuitions. To expect from journals that are denied such advantages the same degree of excellence attained by their more fortunate rivals would be in the last degree unreasonable.

We submit that the local journals ought to receive the encouragement of this Association, rather than be harshly censured for defects which they cannot avoid; and if, in any case, severity of criticism be called for, let it rather fall upon such as, in the midst of a population distinguished both for general culture and scientific attainments, display neither elevation of thought nor the evidences of professional ability.

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A general review of the articles contained in our periodical medical literature suggests a number of points for comment; but of these only a portion can be noticed on the present occasion, and that briefly.

A large proportion of the original matter consists in descriptions of diseases. In reading many of these reports, one is often forcibly struck with the extreme meagreness and indefiniteness of their details. Oftentimes it is difficult to infer from them the precise nature of the diseases to which they relate, and oftener still the particulars of the narrative are thrown together with so little regard to method, that their examination is unsatisfactory or useless. This defect betrays a general want of training in the art of observation, an art which lies at the very foundation of excellence in the natural sciences. If the original notes of a case have been taken fully and systematically, they readily adapt themselves to expression in a clear and simple style; but if perplexed and disorderly at first, they can scarcely be reduced to a symmetrical form by any rhetorical expedient. Hence the reader is frequently compelled to turn from these histories of disease, disappointed in his search for information, and surprised at the inaccuracy of their language. He frequently finds in them essential and accidental phenomena confounded, and is in doubt whether certain single terms applied to groups of symptoms (such as inflammation, congestion, paralysis, hysteria, typhoid, nervous, &c.) are in reality appropriate, for the misuse of many words begets distrust of all.

Nor is the commentary on these examples apt to be more instructive than the text. Instead of a concise analysis of the phenomena recorded, and a comparison of them with such as have been observed in similar cases; instead of an attempt to estimate the action of the remedies employed, by comparing the symptoms before and after their exhibition; instead of an endeavour to trace a connection between the successive phases of the malady and the several degrees of disorganization found after death, it far too often happens that all of these things are overlooked for the sake of some crude speculations in regard to the proximate cause of the attack, or the *modus operandi* of the remedies employed. Not that such inquiries are devoid of interest or utility; but they require a tutored sagacity and some learning to be rightly prosecuted, and are, therefore, unlikely to result in discoveries, if conducted without system, and upon the basis of inaccurate or insufficient data.

In the corresponding class of theoretical essays, the defects are

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still more striking, as might, indeed, be expected; for while in description the least sagacious cannot fail to infuse some truth, in theorizing the wisest cannot avoid mingling a large portion of error. Hence it is always to be regretted that unpractised writers should rashly forsake the safe and beaten highway of nature for the flowery and intricate mazes of speculation, whence they bring back little else than the thorns with which they have been torn. The story of many such calamitous excursions is preserved in our periodical literature.

The *style* of both forms of composition alluded to is very susceptible of improvement. The evidences of haste, prominent as they are, constitute the least of its faults; for too frequently it is chargeable with all the mortal sins which the canons of criticism forbid; it sets at defiance grammar, rhetoric, and logic, and forces upon readers the conviction that they who use their native tongue so awkwardly can hardly be accomplished expounders of science. While we acknowledge most cheerfully the debt which the profession owes to conductors of periodical publications, and are fully aware of the many discouragements that surround them, we are still persuaded that a greater degree of strictness on their part would materially elevate the literary character of their journals. An editor is bound to see that his contributors do not offend the common rules of language, and to refuse their papers if devoid of merit or incurably loaded with faults. In justice even to them, he ought to correct errors of expression and arrangement, if, as frequently happens, such corrections are all that is needed to make an unintelligible essay readable. By a judicious exercise of his prerogative, he will spare them mortification, save his readers from disgust, and protect his own character as a writer from the suspicion of incompetency. If a journal *habitually* publishes articles which are obnoxious to verbal criticism, their imperfections are attributed either to the editor's misplaced leniency or his ignorance, and the support of the profession is withdrawn from his journal. It were much more to the credit of those who control the periodical press, not to wait for this tardy admonition, but to withhold communications until they are purged of the offensive faults which have been pointed out.

They should also, we think, discourage the prevalent tendency of uncultivated minds to theorize, and do all in their power to promote the record of exact and complete accounts of endemic and sporadic diseases, and even of individual cases. For, although each case is

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by itself of little value, the union and comparison of many are the securest groundwork of medical doctrines. The most trivial, even, is precious when compared with a theory that has its unsubstantial basis in speculation. In building up the temple of science, a single brick may have its uses, and is worthier to be preserved than the most ingeniously woven pyramid of straw, which the next wind of doctrine may sweep away, and which the all-proving fire of truth shall certainly consume.

As before remarked, the greater number of original articles contained in the journals are descriptive. In another class, which may be designated as the historical, the essays contain a summary of a large number of cases (or of authorities, if the subject discussed is one of opinion), together with an analysis of the material employed. These form one of the best executed and most valuable portions of our periodical literature. There remain a few papers on the generalities of medicine, and a still smaller number of experimental essays. In an Appendix to this Report, a classified list is given of all original articles of interest published since May, 1849. In this place, we shall only refer to a few amongst them which are remarkable for accuracy, completeness, ingenuity, or research.

Amongst the histories of epidemics, we select the following for commendation :—

The Yellow Fever of New Orleans, in 1848, by Dr. Fenner.

The Cholera in Buffalo, by Dr. Flint; in Newark, N. J., by Dr. J. H. Clark; in New York, by Dr. Buel; at the N. Y. Quarantine, by Dr. Sterling; in Memphis, by Dr. Shanks; in New Orleans, by Dr. Simonds; and in the Philadelphia Almshouse, by Drs. M. Stillé and Mayer. Dr. Flint's Memoir is entitled to particular notice from the fact of its presenting, in a tabular form, an analysis of sixty-seven cases of cholera.

It may be proper to notice, in this connection, the Report on Cholera as it occurred in Boston, by Drs. Clark, Buckingham, Dalton, and Williams. It was published in pamphlet form, and contains by far the most accurate and detailed analysis of the symptoms, post-mortem appearances, and causes of the malady, which this country has produced. The connection of the disease with influences essentially detrimental to health is conclusively proved, and illustrated in a novel and very striking manner.

Several other papers, based on original observation, possess decided merit, amongst which we would distinguish the following:—

On Hemorrhage from the Umbilicus in new-born Children, by Dr. Bowditch.

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Observations on the prevention of Phthisis, and its treatment in the early stage, by Dr. E. Hallowell.

Observations on the Occipital, and Superior Maxillary Bones of the African Cranium, by Dr. J. Neill.

On the use of Ether in Lithotrity and Lithotomy, by Dr. J. M. Warren.

On the use of Chloroform in Midwifery, by Dr. G. N. Burwell.

On Serous Effusion within the Arachnoid, by Dr. A. Flint.

Subjects connected with General Pathology have been well treated of in several Essays, particularly in the Lecture of Dr. Flint on that subject; the Lecture of Dr. Le Conte on the Philosophy of Medicine; an Essay on Inflammation, by Dr. Batchelder; and two Memoirs on Malaria and Contagion, by Dr. S. H. Dickson.

The articles most remarkable for research are:—

An Investigation of the Cases of Hybridity in animals on record, considered in reference to the Unity of the Human Species, by Dr. Bachman.

On the Mortality from Tying the Femoral Artery, by Dr. G. W. Norris.

An Essay on Tumours of the Uterus, and one on the Signs of Portal Phlebitis, by Dr. W. C. Roberts.

On Angina Pectoris, by Dr. Kneeland.

It is remarkable, and it speaks but feebly in praise of our physicians as scientific investigators, that there are but two experimental memoirs of any importance contained in the journals of the last year. One of these describes the continuation of Dr. Blake's ingenious and interesting experiments on the action of poisons; they appear to have been conducted with a full knowledge of previously obtained results, and of the conditions essential to the discovery of new principles. In the other essay, which gives an account of Dr. Dowler's experiments on the nervous system of the alligator, we recognize the author as a zealous and industrious cultivator of physiological science, but at the same time discover that the phenomena described by him are far from countenancing his general statements, and still farther from authorizing the tone of criticism which he adopts towards the most eminent physiologists of the age. It is greatly to be desired that such energy and perseverance, such quickness of conception and vivacity of style as distinguish the author of this memoir, should be chastened by a habit of more deliberate inquiry, and more cautious reasoning.

The experimental investigation of a natural science is a prolific

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method of discovery; it has created both physiology and medical chemistry, and by it must they be perfected. They form a part of the course in the greater number of our medical schools, and yet we do not remember that a single experimental essay on either of them has emanated from the professors by whom they are taught. The Association has, we think, if not the power of curing this lamentable defect, at least the means of promoting original research, by offering annually a prize for the best experimental essay in physiology or medical chemistry, without specifying any particular subject. No other plan would permit so large a number of competitors to enter the lists, or leave each one so free to follow the bent of his own genius.

We have been thus pointed in alluding to some of the more conspicuous faults in the original department of the medical journals, because we conceive that a committee of this body is bound to perform its duty with directness and candour; but we would be wanting in truthfulness were we not also to acknowledge that so large an amount of valuable materials is contained in the journals as to make them indispensable to writers upon the practice of medicine and surgery. Many of their more prominent articles are cited by native and foreign authors, and in not a few instances they contain the description of a new form of disease, or the proposal of some new method of treatment. The esteem which is now shown to many, would be extended to a much larger number, were the improvements within our reach adopted. The materials and the ability to employ them are abundant; the means of securing them will be pointed out in the sequel.

The department of "Selections," in many journals the largest, is certainly susceptible of a change for the better. The labour-saving expedient by which the work of an editor in selecting and condensing is openly made use of by journals published subsequently to his own, has been justly, and we hope sufficiently, condemned. We rather complain that in scarcely any instance do American medical editors resort directly to foreign continental journals, but are content to borrow the summaries already prepared by the English medical Press. These summaries are far from representing accurately or fully the progress of medicine in Germany, France, and Italy, since they are, for the most part, devoted to the announcement of new discoveries. A large number of valuable essays in which the scattered data of observation are cemented into consistent doctrines, and which are neglected by British journalists, as well as by our own, might be

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translated for American periodicals, and serve not less for our instruction in science, than as models in the art of composition. Even if the length of some among these memoirs prevented their complete republication, a faithful analysis of their facts and argument would add sensibly to the interest of the journals, especially if accompanied with a critical comment, and the citation of native authorities.

In a literary point of view, the critical department of the medical journals holds the first rank. As it treats of books, a certain degree of acquaintance with literature is necessary to sustain it, and we accordingly find that in its average style and tone it is superior to the scientific articles that usually precede it. Yet in it, as in them, there may be discerned every variety of merit both in idea and execution; on the one hand learning and elegance of expression, and on the other, shallowness and triviality. The "Reviews," as distinguished from the "Bibliographical Notices," generally present a clear and faithful account of the works to which they relate, with occasional comments, as the opinions of the author and reviewer coincide or diverge. It very rarely happens, in such elaborate analyses, that the pen of criticism appears to be guided by improper feelings, whether of partiality or dislike. They seem, in the great majority of instances, to be dictated by a spirit of justice, and that they are so is rendered probable by the striking unanimity of sentiment expressed in various journals respecting the same work. Exceptions to this statement may undoubtedly be discovered, yet we regard it as a fact, no less certain than praiseworthy, that the medical critics of the United States are remarkably independent in thought and expression. They display but little of that tendency so evident in British periodicals, to proportion the eulogy of a book to the reputation of its author, and to frown upon a work, however meritorious, to which an unknown name is attached. In this matter American critics unquestionably feel the influence of liberal institutions, and appear to be all but unconscious of either hopes or fears inspired by the authors whom they judge.

In point of number, the short criticisms usually called "Notices" exceed the Reviews, but are too often deficient in the qualities which distinguish these latter. Whether it be that leisure is wanting to judge fairly the numerous issues of the medical press, or that so few competent persons can be found to perform the labour, certain it is that in a great many journals the critical notices are extremely flippant, devoid of merit, and unjust to authors. Not that their general

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tone is one of censure; so far from it, indeed, that the bitter pill of reprehension is seldom to be discerned amidst the honeyed eulogy with which the author is surfeited, who, if he be a man of manly character, will be more nauseated by such fulsome praise than he would be wounded by downright condemnation. We have no suspicion that our periodical literature is chargeable with the practice which has robbed the criticism of political and minor literary journals of every semblance of value, and converted many of them into the stipendiary pimps of impotent scribblers, or made them the hired assassins of literary character. Yet so far as authors are concerned, their interests are quite as much sacrificed by indiscriminate and motiveless praise, as they could be were the motives of such praise impure.

The sources of these defects are not mysterious. The chief one is that the "notices" referred to seem to be generally written by persons who are either ignorant of the subject treated of, or else who take no pains to inform themselves by a careful perusal of the pages before them. Ludicrous mistakes are not an unfrequent result. An author, for instance, is blamed for teaching doctrines he has laboured to refute, or is warmly commended for holding opinions which he has carefully eschewed. We could refer to a case in which certain precepts were roundly denounced, and the author triumphantly referred to the works of a distinguished foreign writer for the proofs of his ignorance, when it so happened that he had maintained the correctness of his precepts by the very authority which was cited against him. Sometimes it is almost susceptible of demonstration that the critic has never ventured beyond the title page and preface of the volume on which he pronounces oracular judgment. The terms, too, in which the judgment is expressed, are not the least amusing part of this counterfeit criticism, since, with trifling transpositions they serve for repeated issues, and may be compared to the blanks used by conveyancers, in which the names and descriptions only are changed with successive customers, while the declaratory part of the document remains the same for all.

The evil that has been pointed out is one of serious import in a country so extended as ours, and in which so large a proportion of physicians must govern their purchases of books by the opinions of them contained in medical journals. Far better would it be that new publications should pass unnoticed by the press, than that they should be spoken of only to be misrepresented. And we repeat that it makes no difference whether the misrepresentation be eulogistic or

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damnatory, for it is the right of the reader to be addressed truly, and of the author to be judged fairly. If the critic lose sight of his duty in these respects, he ceases to be a trustworthy guide to the public, or faithful to the literature of which he is a professed champion. An author really deserving of the name looks to the tribunal of periodical criticism for advice and instruction, is anxious to know how his writings appear to different minds, and only asks that they may be candidly examined before judgment is pronounced upon them. He receives with equal disfavour the vague compliments, and the malicious railing, which fall upon him in nearly equal profusion from opposite quarters, and too often seeks in vain for that candid estimate of his work which can only proceed, after calm inspection, from the pen of a just man.

The critic's duties, which are amongst the most important and honourable within the domain of literature, do not, we think, always receive the serious consideration to which they are entitled. They resemble those of the judicial station, and, for their due performance demand a high degree of those qualities which all men regard as indispensable to the expounders of the law. If the judge ought to be "learned in the law," so ought the critic to be familiar with the subject of the work that is cited at his bar, well read in treatises of a similar nature, and acquainted with the actual condition of the department of medicine to which it relates. As the administrator of justice should dispense the law without fear, favour, or affection, so should the arbiter of literary and scientific questions preserve a mind unbiassed by prejudice or partiality. As he is called on, like the judge, to give opinions respecting doctrines, and conclusions arrived at by process of reasoning, he should be acquainted with the forms and powers of language, and be a skilful analyst of thought and argument.

Although the critic is forbidden by every motive of propriety to assail, or, in most instances, even to allude to the personal character of the author, it is not less his right than his duty to obtain a clear insight into the moral character of the work before him. Indeed, such an estimate lies at the very foundation of the proper exercise of his functions. It is a waste of labour to criticise *on scientific grounds* a work that is dishonest in its statements. Science is only another name for truth, and all truth is one, although there are many manifestations of truth, as a single musical sound may consist of many different but harmonious notes combined. A literary or scientific treatise is valuable in so far only as it is true; no copious-

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ness of words, no accuracy of expression, no brilliancy of metaphor, no ingenuity of argument, no richness of materials, no aptness of illustration, can atone for, or even palliate, a disregard of the paramount claims of truth.

It is the property of error to spring up suddenly, and spread rapidly, and it is equally the nature of Truth to arise from obscure beginnings, and advance to its destined conquest by slow and often unseen steps. The one is greedily devoured by the multitude, but men turn away from the other with indifference or distaste. It is, therefore, incumbent on the critic to attack the former when it appears in the guise, not only of false doctrine, but of false morality, pretending to be what it is not, and cheating those who are unsuspicious of its deceit. In fulfilling this duty, he should be inflexible, remembering that the honour of the profession and the interests of humanity are at stake. In cases, even, that involve no moral delinquency, but only the propagation of mischievous errors, he ought not to shrink from exposing their deformity, veiled though it be in all the beauties of a luxuriant style, or surrounded by the fallacious defences of sophistry; he should tear it up as a poisonous root from its shelter of fair leaves and flowers, and cast it forth from among the wholesome plants which the same soil produces. We cannot be too often reminded that, while in other sciences mistaken opinions and false doctrines are only remotely dangerous, erroneous views in medicine receive a direct and immediate application by which life itself may be sacrificed.

After he has become convinced that a work gives sufficient evidence of right intentions in its preparation, the critic has still a difficult and responsible task before him. He should endeavour to place himself in the author's position, and from that point of view, determine how nearly the author's object has been attained. For it is obviously unfair to judge of the correctness of his conclusions upon different grounds from those he has thought proper to assume. A writer, for example, who faithfully describes a disease as it occurred under his own observation, cannot be blamed if his description does not tally with what has been recorded elsewhere. His *plan* of treating his subject is a proper theme for discussion, but the merits or defects of the plan are not to be confounded with those of the actual description, or of the argument employed.

It is equally unjust to judge a book upon the evidence of fragments gathered at random from its pages, torn from their natural connection, and withdrawn from the light which a perusal of the

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entire treatise would shed upon them. Yet this is one of the prevalent vices of that summary criticism which we have censured; its injurious tendency must be too apparent to require any farther illustration.

Not only should the critic endeavour to view the work before him as a whole, but also to distinguish between its merit in this respect, and the value of its several parts. A treatise may be very deficient in effective generalization, and yet remarkable for the accuracy and completeness of its details; or, on the other hand, it may display a very high order of abstract reasoning, and yet furnish very incomplete and irrelevant data as the basis of its argument. How much soever the value of the work may be impaired by such a want of harmony between its facts and arguments, the author is fully entitled to praise for what he has done, even while he incurs censure for what he has omitted, or failed to accomplish. We have been induced to direct attention to the distinction here insisted upon, because it appears to be seldom recognized by critics, who are too apt to praise or condemn without qualification, according as they happen to be impressed with the unity of purpose displayed in a work, or with the completeness of its component parts.

The last duty of the critic's office to which allusion will now be made is that of distinguishing between the manner and the matter of a work. In general literature, whose object is as much to please as to instruct, style is regarded as the first, and perhaps the paramount requisite for success. In scientific composition, on the other hand, the simplest formula of expression, that which renders the idea most distinctly visible, is undoubtedly the best. But such a style is perhaps the most difficult achievement of rhetorical skill, a style of such transparent simplicity that the reader scarcely feels it as a barrier between his mind and the author's idea. It is like those exquisite forms of classical art in which the bodily eye sees less the marble or the canvass, than the mind's eye beholds the abstract beauty of which they are the visible signs. The difficulty of acquiring a clear and simple style in some measure accounts for the obscurity of language that defaces some of the most remarkable treatises, and sufficiently inculcates the propriety of distinguishing between the merit of an author's thought and language. Critics are too prone to be blind to truths veiled in the coarse texture of a rude and obscure style, and to mistake for brilliant thoughts whatever is seen through the gossamer and glittering drapery woven by rhetorical cunning. Although it is not easy to overcome the repug-

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nance which is involuntarily felt towards the one, or to resist the seductive graces of the other, yet to this mastery over his impulses must the critic attain, if he would secure the confidence and respect of his readers. Especially must he, as a minister of our infant literature, be always on the alert to detect whatever is good in the immature productions of authors still unknown to fame, and by a candour no less generous in praise than delicate in censure, encourage while he chastens the aspirants to literary reputation. Let him never divert one breath of favouring wind from the humblest bark that steers by the polar star of truth, nor fail to thrust through, without relenting, the inflated bladders upon which vanity would float at ease over the waves of popularity.

A Catalogue *of the medical works published in the United States* since the last meeting of the Association, is appended to this Report. The enumeration is such as could be made from the sources of information accessible to the Committee. These consisted almost wholly of publishers' lists, and the Review department of the journals, for, with few exceptions, the works themselves were not submitted to our examination.

Of the original works in this catalogue, the most extensive and important is the first volume of Dr. Drake's *Treatise on the Principal Diseases of the Interior Valley of North America.* This volume, which contains nearly nine hundred pages, is taken up with the medical topography, the climate, the manners of the inhabitants, and the autumnal fevers of this vast region. Owing to the late period of its publication, the Committee have been unable to examine the treatise thoroughly, and they might, therefore, rest contented with a bare announcement of its existence. But they are reluctant to do so, since even a superficial inspection of the work has convinced them that it belongs to the very highest rank of our medical literature, and may very probably come to be regarded as the most valuable original work yet published in America. It is certainly unrivalled in the amount and variety of its materials; its style is perspicuous, correct, and elevated; and it appears to have been elaborated with great industry and care. Its distinguished author has raised a durable monument to his own name, and to the medical reputation, not only of the Great Valley, but of the greater Union.

"*Physician and Patient; or, a Practical View of the Mutual Duties, Relations, and Interests of the Medical Profession and the Community,*" is the title of a work by Dr. Worthington Hooker, of Norwich, Conn. Nowhere else have the subjects of this treatise

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been so fully and satisfactorily discussed. The author pleads the cause of medicine with the most cogent and persuasive arguments, and in a style at once simple, correct, and attractive. He evidently loves his profession, and reflects in his language the lineaments of a cultivated mind and an upright character. Physicians, in becoming acquainted with this interesting work, will find that it contains every needful protection against the seductions of false doctrine, and abundant encouragement to bear with serenity and fortitude the inevitable ills which beset the medical practitioner's path.

A large portion of the volume is occupied in exposing the different impostures which, under the name of medical systems, are filching the money and wasting the lives of the community. These chapters of the work are addressed to the public, with a view of convincing them of the unworthiness of such pretenders to their confidence, and of inducing a juster estimate of the art of medicine than is now popular. Admitting, without reserve, the ability and moderation manifested in the discussion, we are still persuaded that the author will make few or no converts amongst the patrons of quackery, for the starting-point of his effort is not the true one. It is in vain to look for their conversion from error, by means of argument, who have fallen into it through passion or prejudice. Men do not resort to quackery because they have gained a rational conviction of its value; for how shall they regard anything as a subject of reason who are completely ignorant of the principles it involves? They resort to it because they are ignorant and credulous; or because they are self-sufficient, and, therefore, still more credulous. And they will continue to resort to it for all time to come; for to enable them to comprehend the absurdity of quackery would be to make them physicians, a thing neither possible nor desirable.

Reasoning, perhaps, never yet saved a single dupe from the fool's fate; the scales seldom fall from his eyes till he has beheld some cherished object sacrificed to the bloody Moloch of quackery. Even then he sometimes seems smitten with judicial blindness, and clamours more loudly than ever in praise of his hideous idol, as the drunkard extols the bottle most when it has most nearly destroyed him. Even if he outlives the cheat (and the quackmonger must be short-lived, indeed, if he do not), another equally absurd supplants the first, and holds him by a sort of devil's compact, until repentance is in vain. Every physician must have witnessed examples of such tardy and ineffectual regret.

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The attempt to eradicate quackery must fail now as it has always done. Its very weakness is its strength; and it is certainly unwise to deal the sturdy blows of science upon a thing which, mushroom-like, springs up in the darkness of human ignorance, and in the rankness of human folly. The deceptive systems which captivate the silly and presumptuous of both sexes do so in exact proportion to their absurdity, and this alone would be reason enough for not appealing to men's reason against them; but it should not be forgotten that in every one of them some little grain of truth lies concealed, just as every vice contains the distorted image of some virtue, and every false religion some element of the true. This bestows upon them whatever brief and feeble vitality they possess. They have their uses too; for they often illustrate the powers of medicines prescribed as no physician would dare prescribe them, or show how far unassisted nature is able successfully to struggle with disease. These rank weeds of the garden of science, when they have done their permitted mischief and rotted, serve to manure the soil which they have dishonoured, and show that, in the plans of Providence, the vilest things are not without their purpose.

The treatise of Dr. John Bell, on *Baths and the Watery Regimen*, is rather a new work than a new edition of a previous one, devoted in part to the same subject. Its appearance is very opportune at this moment, when so much of mischief and folly is enacted under the auspices of the Hydropathic heresy.

The author's learning and critical acuteness are successfully employed to show the antiquity and the real value of the use of water for the preservation of health and the cure of disease, the first of which objects he rightly holds to be the more important. He does not confine himself to a consideration of the uses of water, but treats amply, and in a spirit of sound discrimination, of all the methods by which medicinal vapours and fluids may be employed to the advantage of the animal economy. No work in our language contains so large an amount of well-digested information respecting the above subjects, and we have reason to feel proud that such an addition to the permanent literature of the profession should have been made by one of our own citizens.

The *Universal Formulary*, by Dr. Eglesfeld Griffith, is a very useful contribution to the list of works intended to aid practitioners in the art of prescribing. It is more copious than any other com-

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pilation of prescriptions, and more complete than any similar work in all that relates to the management of the sick, the rules for dosing and administering medicines, and the application of external remedies. It cannot fail to be appreciated by physicians who are duly sensible of the importance of the minor details, on which success often depends quite as much as upon the general principles of therapeutics.

Dr. J. J. Reese's *American Medical Formulary* is a well-executed compilation upon the same general plan, but less elaborate and comprehensive than the one just mentioned.

The Practice of Surgery, embracing Minor Surgery, &c., by Dr. Hastings, U. S. N., has found favour in the eyes of some critics, and but for serious defects of arrangement, might be regarded as a convenient manual for students. Its errors of style, however, and the somewhat indefinite character of its descriptions and directions, betraying, as they do, great haste of composition, and an imperfect acquaintance with surgical literature, diminish the merit which the work might otherwise have claimed.

Several translations of medical works have appeared during the last year. Tardieu *on Cholera*, by Dr. S. L. Bigelow; De Jongh *on Cod-Liver Oil*, by Dr. Edward Carey; and Cazeaux's *Midwifery*, by Dr. R. M. Thomas. These are all works of merit, but the last especially is well deserving of an English dress, as emanating from the distinguished obstetrical school of which Nægelé was the founder, and Dubois is one of the most eminent teachers. The translator deserves credit, on the whole, for performing his task so well. The task of translating is vastly more difficult than is commonly imagined; and a reader aware of this fact and acquainted with the original, will be disposed to overlook faults which another would scarcely perceive.

The Diseases of Infants and Children, by Dr. Churchill, presents, we believe, the only instance in which the work of a foreigner, resident abroad, has been published first in the United States. This circumstance adds to the satisfaction of receiving so valuable a contribution to a department already enriched by several of our most distinguished writers.

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The Monograph of Dr. Carnochan on *Congenital Dislocations of the Femur* belongs to a class of books which has but few representatives in this country. Treatises on special subjects have a limited circulation at first, but, if meritorious, grow more valuable by the lapse of time. The present one treats of a disease which does not appear to have attracted much attention from English or American surgeons. It augments the knowledge previously derived from continental authorities, by the personal and well-recorded experience of the author, and its execution is, in all respects, deserving of praise.

The preceding survey of a portion of our medical literature suggests some general reflections to which we beg leave to draw the attention of the Association.

In its widest sense, literature may be defined "the knowledge imparted through books." It is the principal medium through which mind acts on mind; it is the creative spirit which evokes from the shapeless mass of barbarism the beautiful forms of civilization. It is the most enduring monument which a nation can raise to perpetuate the memory and example of its noble deeds. When the marble temple and the bronze statue have crumbled, when even the lineage of a nation has disappeared and its language ceased to be a mother tongue, its literature may still survive, and transmit the impress of its mind to the latest generations. The mind and manners of Greece still stand before us in living pictures, while the cotemporary empires of the East, which far outshone the little States of the Peninsula in all the elements of mere material grandeur, would now be utterly unknown, had not their names been embalmed in the writings of a people they affected to despise. How wonderful and instructive is the reflection that the tiny republic of Athens should at this moment fill so large a space in the world's reverence, and still govern mankind with so predominant a sway, while the splendid kingdoms of Darius and Cyrus should have so faded from remembrance that the very Arab, encamping upon their buried capitals, is unconscious of the city that slumbers beneath his tent!

A certain number of nations, it has been remarked, bear the decisive stamp of their inferiority, their improgressiveness. But "the nations that are historic and progressive contain in themselves the means and instruments by which their progress may be effectuated, namely, literature; literature as connecting one nation

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with others diversely though equally cultivated, and as connecting the present with the past, and with the future. They possess that which gives a continuity to time, and emancipates both individuals and communities from the hard necessity of existing as successive fragments—like a glow-worm in the scanty circle of its own light, all before and all behind, and save in the narrowest vicinity, all around—in impenetrable darkness."—(Mr. J. H. Green, *Hunterian Oration*, 1847.)

These truths, which are so striking in reference to the entire literature of a people, are quite as applicable to the history of its several departments, and to none more than that of medicine. Although it has had its full share in the vicissitudes of individual nations, and passed through its own alternate epochs of prosperity and depression, yet its march has in the main been onwards. The torch of medical science was kindled at the altar of Esculapius, and after long shedding its light upon Greece, was seized by the Roman world. Modern Europe revived its sinking flame, and caused it to burn with a lustre that has penetrated to every region of the globe. We live in its genial light, and the time may yet arrive when we shall in our turn become the chief guardians of the sacred fire.

Scarcely any literature can boast of a genealogy so distinct and eminent as that of medicine; for, while nearly every other has had, as it were, a number of successive births, has arisen independently amongst different nations, and worn the peculiar physiognomy of each, the medical literature of every age is the legitimate issue of that which preceded it, and bears the same family features at nearly all periods of its existence, so that the maxims of the fathers of the art continue to be fountains of truth in all time. In looking back upon the history of our science, the eye instinctively rests upon certain remarkable epochs, simply because they are illustrated by eminent works. It is impossible to avoid the conviction that the state of medical literature at any period is the true and only test of the condition of the contemporary science and art; and if the history of medicine sustains this conviction relative to all past time, we may safely conclude that it is also true of the present, and that the merit of the profession in a country may be inferred from the state of its literature. If discoveries in science are made, they will of necessity be recorded; and if physicians are learned or scientific, they will create a literature to represent themselves, unless, indeed, the press be shackled by repressive laws, or the cost of employing it exceed their means.

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Now it is certain that in the United States no such obstacles lie in the way of authors. Our magistrates seldom attempt even to reprove licentiousness in writing, and still less do they throw impediments in the way of the just and honest action of the press. It cannot be said that we lack the means of publishing what we will, so long as every village, and almost every political party in each, is represented by a newspaper, and at least a score of journals are devoted to the interests of medicine alone. There would seem, then, to be no reason why the medical literature of the profession should not be taken to denote the degree of knowledge and skill existing in the profession. We are well aware that the republication here of foreign books has been assigned as a sufficient explanation of the state of our native medical literature, but it is evident that so far as this influence is hurtful, it can be so only by diminishing the *number* of American works; it must just as certainly improve the *quality* of those which are actually published.

During the last half century, a very considerable number of original medical works has issued from the American press. Of these a very large proportion relate to the practical departments of medicine, and very few to the elementary, or, more strictly, scientific branches. Of the latter, nearly all are compilations intended to be used as text-books in the schools. These facts present an apt illustration of the principles that have been propounded. Our attention has been almost exclusively absorbed by the art of medicine, by the application of doctrines and precepts originating in the Old World, and our literature reflects this truth. An examination of its extent, and of the works composing it, offers many occasions for indulging a feeling of just pride on account of the discriminating tact, sound judgment, and patient industry displayed, but at the same time reveals defects which, however we may explain them, are sufficient to exclude the works in question from the highest rank.

With a few remarkable exceptions, our medical works exhibit a low degree of scholarship, both general and professional. In point of style they are sensibly inferior to native treatises on law and theology, some of which have won for their authors a reputation coextensive with the republic of letters. This apparent enigma is not difficult of solution. Members of the bar seldom appear as authors without having a definite qualification for the office; the subjects of which they treat are abstruse and complex; the mode of discussing them is in a great degree regulated by that which previous writers have employed, and they require for their elucidation

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great precision of thought and expression. There is no medium—scarcely any mediocrity—in such a literature. Either the writer succeeds, or altogether fails. Mental discipline and legal learning are well understood to be the price of success, and they who cannot afford to pay this price but seldom aspire to its reward.

In theology, too, the conditions are favourable to the production of qualified authors. Nearly all denominations of Christians exact a classical and collegiate course of instruction from those who intend to pursue theological studies, which are in themselves only a continuation of the previous course in some of the higher and more difficult branches. Thought, language, and the principles of interpretation are the very materials with which the theological student and writer has all his life long to deal, and he must be dull indeed, if, with all his elementary training, he does not obtain a competent mastery of them.

But the physician is not prevented by the inherent difficulties of his subject on the one hand, nor on the other by his lack of fundamental instruction, from appearing as an author. He is apt to suppose that merely to describe what he has witnessed, or to explain his observations by some recognized principle, will entitle him to rank as an author, forgetting that, in order to render his description clear, and to apply to it correctly some medical doctrine, he should be possessed of that command over language, and that familiarity with the processes of reasoning, which can seldom be acquired without a thorough liberal education.

It is in the prevalent imperfection of the early education of our physicians that the principal cause of their inferiority as writers is to be found. And this cause, it should be particularly remarked, is operative not only by withholding the necessary foundation for literary excellence, but in a still more striking manner by preventing that habit of literary culture, and that study of the master-pieces of thought in all departments of knowledge, by which the mind is kept pure from the debasing contact of the world, and is enabled to ascend at will into a more intellectual sphere. Unless early studies develop a taste for mental pleasures, indifference to them may be expected to continue throughout life, and in the same degree will the habitual mode of thought and expression lend itself to the impression of outward and accidental influences.

A neglect of early training begets another fault which is almost as conspicuous in English medical literature as in our own: it is an imperfect use or the misuse of the reasoning powers. The acute

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observer is, indeed, the necessary pioneer in every search after scientific truth. He is the labourer who must extract the marble from the quarry, and rough-hew it into shape; yet an architect must follow him to set the fragments in their fitting place in the temple of science. Neither can be dispensed with; the co-operation of both is essential to the perfection of the work, or, if possible, the union in one person of the qualities of both. Facts, like stones, are only valuable when used. The growth of true knowledge depends less upon the mere impressions received through observation, than upon the action which the mind exerts upon them. Reflection, abstraction, and generalization, when duly employed upon the materials received from without, build up the fabric of true knowledge and wisdom, which it is impossible to raise in the mind of him who passes from one physical phenomenon to another without perceiving the links which bind them together, or is content with the pleasurable emotion which their novelty excites, or which his own good fortune in meeting with them inspires. These operations of the intellect may be all comprised under the general term reasoning, and he who reasons most, if he reasons aright on what he beholds, most surely widens the field of knowledge, and sows within it the most productive seeds. The lamentable propensity of writers and teachers to delineate or model every subject, so that it can be presented to the senses, has hurried us into forgetfulness of those faculties which are the true instruments of mental power and sources of wisdom. Many a physician is to be found well versed in anatomy, physiology, and symptomatology, who would yet be at a loss to demonstrate the reciprocal relations of these branches, or to follow the chain of their phenomena to its legitimate conclusion. Between facts without reasoning and reasoning without facts, the choice is certainly not dubious; but since neither alone fulfils the purpose of a scientific treatise, we may be permitted to hope for their conjunction in our medical literature, when observers shall feel that learning clears the vision, and speculators learn the instability of castles built on air.

To imperfect education, then, may the prominent faults of our medical literature be ascribed; but that vagueness of idea and want of dignity with which it is charged, in common with our native compositions generally, are due also to influences of a different kind. A distinguished senator, whose own style is a model of clearness, strength, and propriety, has said that the speeches of Congressmen have gone far to corrupt the vernacular. But how much greater corruption must it receive from the newspapers, which are the chief

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mental aliment of our countrymen, and the style of which, in too many instances, combines whatever is vulgar and tawdry in expression with a narrowness of purpose and a sordidness of sentiment beyond example. A writer can seldom emancipate himself from his habitual associations; if the ordinary speech of his country is corrupted by terms borrowed from the dialect of the ignorant, the profligate, or the mean, he will not, unless protected by refined studies, be able to adopt a purer style even when the noblest thoughts crowd upon him for utterance. And, let it be remarked, in passing, that the evil of a debased popular idiom does not stop here; it not only cramps the hand that would indite wise and generous sentiments, but, by making the expression of such sentiments unusual, ends in drying up their source, and thus depraves the character of a nation after having vitiated its language.

Language is the sensible sign of thought. The language of nations, professions, or individuals, represents their habitual modes of thinking, feeling, and acting, is the index of their character, and assigns to them their rank as members of society. If their character be noble and intellectual, and their actions vigorously directed to great enterprises, their thoughts and language will be varied, elevated, and forcible. Thus it is that thought and action are mutually dependent, begetting one another by a perpetual generation; but the primary germ of all greatness is great thoughts.

Physiologists teach that the animal is essentially nerve. To this part of the organism all the rest is subservient, either as a means of sustaining it, or as the agent of its power. In it resides the principle of thought. What the nervous system is to the animal, mind is to a nation. They who think for a people govern and represent that people. Knowledge, and the skill depending on intelligence, may be more generally distributed in some countries than in others, but must in all be restricted to comparatively few persons, and these few are practically the rulers of the state, whether its constitution be democratic or monarchical. Raise the standard of attainment as we may, impart knowledge to as many as we will, a portion, and by far the larger portion of society, must continue to expend their energies on the merely physical duties of life. The same result, precisely, is observable in every profession or pursuit which embraces both a practical and a theoretical department, which is at the same time an art and a science. It is so in medicine. This profession must include both thinkers and doers, and many more of the latter than of the former, since few comparatively are

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endowed with the highest faculties, or possess the requisite means either for cultivating genius, or for subjecting the mind to that long discipline and instruction which sometimes render it capable of far more than untutored genius can accomplish.

Under the actual form of our government, and even in our most favoured seats of learning, it is difficult to attain distinction in art or science, for want of a system of thorough training. At a distance from these centres of comparative enlightenment, in obscure villages, and interior towns, languish for lack of encouragement many strong thinkers, who yet can scarcely think to the best purpose even for their own need, and who can still less impart profitable instruction to their pupils and others within the range of their influence. Many such minds which now glimmer in obscurity, or doubtfully illuminate a narrow circle, might, with even moderate opportunities for development, become brilliant and beacon lights to the profession.

Even in the Old World provincial merit seldom rises to an elevated position. Under the system of political centralization which there prevails, capital, learning, talent, ability of every sort, seeks the metropolis, where alone the fostering care of government and of associated influence is fully experienced. In the United States, an opposite political system exists. Local legislation, that of the municipality, the borough, or the township, covers nearly all of the relations between man and man, and little is left to the central government beyond the relations of citizens to the commonwealth, and the Union. This peculiarity, more than any other that affects our political condition, makes every American feel his importance as a member of the nation, and actually renders his personal character an instrument of incalculable good or evil. Now the intellectual must be in harmony with the political development of a people. If a whole nation is elevated in the political scale when its individual members enjoy equal political rights, then will it be raised intellectually, if the same means of enlightenment are open to every citizen. In like manner, if the medical profession as a whole shall ever reach its proper station amongst the learned fraternities of the country, it will be when the avenues to science are filled with educated men, when the inquiry shall become general, not how little, but how much, it is possible to learn, before assuming the title and the grave responsibilities of a physician. Then, and not before, may we see our medical literature redeemed from the reproach of feebleness which it now bears, and its value as the organ of thought of the profession duly appreciated.

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Yet it is not by the attainment of such a degree of excellence alone as lies within the reach of the mass of the profession, that our literature can become historical, can take its place by the side of European science, and discharge the debt which it owes to foreign benefactors. The average knowledge of the profession can by no possibility be very exalted, and, were we to rest satisfied that each member should possess no more than every other, the highest attainment would be a respectable but stationary mediocrity. There will always be minds that must starve on such mental food as abundantly suffices for ordinary intellects. To supply such minds with this rarer and nobler nourishment, places and means must be provided. But not for their sake alone. The level lake of popular knowledge will be dried up, unless it is replenished by streams that flow perennially from the hills where talent has built its reservoirs, and from the cloud-capped mountains where genius pours forth its living waters. Neither they who write for ordinary capacities, nor those who read, appear to recognize, as fully as they should, the fact that by far the greater part of popular treatises are little else than abridgments of works prepared by a higher class of authors for more cultivated readers, or commentaries on texts furnished by men of genius. The true exponents of the literature of an epoch or profession are not the most popular works, but those from which popular works are extracted, those which are fullest of invention and discovery, those to which the historian will afterwards point as the monuments of their time. No argument need be adduced to prove that these can only be created by a system of exceptional culture above and different from what is suited to the average wants of the profession; that there must be seats of professional learning whither all may resort who have exhausted the ordinary means of instruction, and yet thirst for higher knowledge. At present, no such institutions exist in this country; and hence nearly all writers who have adorned the native literature of our science have been compelled to seek abroad the culture which they vainly wished for at home, and, as an inevitable result, to adopt opinions, and habits of expression which have tended to make their works pale copies of transatlantic originals, when they should have been stamped with the characteristics of the American mind. An elevated, distinctive, and permanent medical literature cannot, we think, be hoped for until some one of our schools shall adopt a much higher system of instruction than has yet been thought of, and, instead of looking to minor institutions for the measure of its advancement, look upwards only to the sub-

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lime purpose of education, receive into its bosom those alone who are fitted by their accomplishments and their ambition to honour the profession, and resolve that the American student shall be perfected upon American soil.

On such a purpose, steadily maintained, and supported by every expedient that is calculated to develop and mature the talent of those who enter upon medical pursuits, must the hopes of our professional literature after all repose, and not upon any narrow-minded attachment to American literature for its own sake merely. It is not to be pampered because it is a native growth, but to be fostered because it is good or capable of becoming so. It would ill become us to imitate the people of China and Japan, who pride themselves upon their stunted and effeminate civilization, and look with contempt upon the sciences and arts of the outside barbarians. A feeling of nationality in literature is, within just limits, a mighty stimulus to the production of works which extend the empire of the mind, but, carried beyond a certain point, becomes high treason to the universal republic of letters, and "confines to a sect what was meant for mankind." While, then, every lover of his country must be ambitious of raising to its glory the only imperishable memorial that human skill can construct, a national literature, he ought to remember that the work will crumble of its own weakness, unless its foundations are deeply and securely laid in that knowledge which is of no one time or place, but is the common product of all ages, and of the whole civilized world.

In the progress of this Report, various measures adapted to improve medical literature have been suggested incidentally, as they grew out of the subjects under discussion. Allusion was particularly made to the influence of prizes offered by local societies, and this Association, for the best descriptive and experimental essays. Two or three points remain to be briefly noticed. One of the obstacles to the improvement of our periodical literature is the small inducement presented to really capable writers to sacrifice their time and labour in literary pursuits. Men will not bestow their strength for naught, and it cannot be expected that physicians, who are already so ill paid for professional services, will seriously attend to the duties of authorship, unless they are to be remunerated. Here and there a writer may possibly be found who stands in no need of a pecuniary return for his toil, and whose industry wants no sharper spur than his ambition; but such cases are quite exceptional, and the greater number of those with whom writing is not a part of

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the business of life, take up the pen for amusement and lay it down again in a moment of weariness, or at the suggestion of caprice. Occasionally they may complete some important work, building its successive stages as leisure or inclination serves; but such motives and opportunities would never succeed in sustaining the periodical literature of the profession. Nor can such persons so well perform the labour, however willingly they may undertake it. A writer who is paid for his contribution feels bound by stronger motives to do his duty faithfully, for he is a party to an explicit contract. But the volunteer contributor is tempted to imagine that he is conferring a favour upon the editor who seeks or accepts his assistance, and he accordingly indulges himself, too often, in careless thought and style, spares himself much useful research, and deals with his subject as if it were a plaything. As a critic he is too apt to disdain the labour of acquiring a just notion of the author's merit, and prefers the easier method of exalting him with pompous eulogy, or of assailing him with commonplace invective. We are very far from suggesting that all who bestow their labour as a free gift upon the periodical literature of the profession are so regardless of what is due to self-respect and justice; but it can scarcely be doubted that many articles which we see in the journals with regret, derive most of their faults from their character as gratuitous contributions. While so liberal a spirit of sacrifice demands a grateful acknowledgment, it were still to be desired that a stricter system of accountability prevailed in the relations of editors and periodical writers, and that the journals, through its means, might be redeemed from much of the superficiality and other signs of haste which so frequently disfigure their pages. Were authors properly, or even at all, remunerated, editors would enjoy more freedom, and would no longer, through fear of giving offence, refrain from chastening or even rejecting imperfect papers. Whether it is possible or not to bring about any such improvement in journals whose editorial functions are themselves discharged gratuitously, it is not our purpose to inquire, but merely to point out what we regard as a means of correcting an existing evil.

The superficial character of very much that is published in medical journals has been attributed, also, to the scanty sources of information to which the writers have access. Even in large cities, private professional libraries are seldom well furnished, and elsewhere there are no collections of books sufficient for the investigation of scientific questions. Neither the history of medicine nor its contemporaneous progress is familiar to many physicians; and while such is the case,

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it is not surprising that notions should be laboriously expounded which have long ago been consigned to the receptacle of broken literary wares, or that discoveries should be announced as original which are already the current coin of the profession. A plan easy of execution, and which will tend to prevent such mistakes, as well as cultivate every faculty that should distinguish a physician, is the formation of local reading clubs and libraries. Wherever a dozen or twenty persons will unite for the purpose, a small annual subscription by each will suffice to obtain for the common advantage, several of the best foreign and domestic journals, and all of the most valuable works published during the year. These may be read by each member of the club in turn, according to an order and at intervals agreed upon, and finally deposited in some central locality where they can be readily consulted. A method of this sort has, we know, been pursued for many years by an association of gentlemen, who, by its means, obtain the most distinguished journals of continental Europe, some of which, indeed, do not reach this country, in the ordinary course of exchange. An expedient so simple, and so salutary in its tendency, needs no extended discussion. Its value must be apparent to every one, both immediately, as an abundant source of instruction, and remotely as a powerful agent in diffusing a love of letters, and in keeping alive that feeling of brotherhood to the profession, which is apt to decline where one lives isolated, or is engrossed with the petty rivalries of his neighbourhood. If but few students of medicine have any consciousness of the misery and danger of ignorance, their self-deception is not permanent, for we suspect that there are few practitioners who do not deplore their imperfect preparation for professional duties. To the latter class of persons the plan suggested recommends itself sufficiently as a means of repairing wilful or unavoidable neglect, but it also seems in every respect to deserve the approbation and adoption of physicians generally.

The considerations and suggestions which have been presented have all a more or less direct relation to measures which are adapted to encourage and maintain "a national literature" of our own. But the Committee would regard their duty as imperfectly fulfilled, were they to leave out of view another measure which is still more intimately connected with a "national literature," or one having distinctive American characters. It is unnecessary to repeat what has already been urged to show that the permanent historical greatness of a people depends upon their native literature. Now nothing can be

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plainer than that a nation which offers a bounty for the republication of foreign works represses and discourages to the same extent the formation of a native literature. In this singular position stand the United States. No sooner does an English work of merit or interest pass our custom house than it is seized by some member of the publishing trade, perhaps by several at once, and is shortly found in every book-shop in the Union, and sold at a price sufficient to pay only for the mechanical labour of its printing and distribution. Nothing of what goes to make up its intrinsic value as a literary or scientific work is included in its commercial price, and its author, by whose labour thousands of readers are instructed or amused, derives no benefit whatever from this unsanctioned appropriation of his toil. The American author, meanwhile, who had in preparation, or actually completed, a kindred work, suddenly discovers that the manuscript upon which, it may be, years of thought and care were lavished, has become valueless, and that his honest hopes of honour and reward have faded like a dream; for how can he put his mind in the market at the slender price of paper and printing? Many a one, too, fitted by education and taste to ornament the literature of his country, turns in despair from the path in which a thousand foreign rivals are cheered onward, and seeks in the humbler walks of practical duty the maintenance which is denied him in his proper sphere. Under such discouragement, it is no wonder that our general literature should display so few examples of successful composition, and that, with all the activity and versatility of the American mind, and with so vast a community of readers eager for novelty, there should still be so scanty a supply of the higher class of native publications. Yet the number of those who take an interest in history, fiction, and poetry is so large that the barriers which are established by law to prevent the success of native productions, are to some extent broken down, as regards these classes of subjects. But in medicine the barriers are still almost undisturbed, and foreign authors continue to be made the involuntary and chief contributors to the instruction of American physicians. Undoubtedly, there is a growing appreciation of American medical works, and, in spite of every obstacle, the number and the quality of those published are annually advancing. In the very feeling that has produced this improvement is to be found the source of the anxiety which now prevails that authors should enjoy their inalienable rights.

For many years past, the state of affairs alluded to has been attracting the attention of literary men, of whom many have endea-

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voured to procure the passage of a reciprocal law between the United States and Great Britain, by which the authors of each country should be enabled to protect their literary property in the other. Formerly, when it was almost an unheard-of thing for an American work to be republished in England, little uneasiness was felt on account of the wholesale republication of English works in America; but now that our native writers begin to be appreciated abroad, and reprints of their works are issued there in large editions, and at trivial prices, the mutual injustice begins to be more generally and more keenly felt, and a pretty unanimous desire is expressed that all ground of complaint on either side should be removed by the enactment of a liberal International Copyright Law.

The fundamental principle of such a law must be the right of property, the right to enjoy or dispose of what a man has created or acquired. In former times, the idea of property was gross and material, and was most strikingly represented by land and tenements, which hence, by way of eminence, were called *real* property. To them the earlier laws of property chiefly relate, and only at a later period did personal effects become a subject of legislation. Last of all the property which is, in truth, most real, since it is the direct creation of the mind, property in written thought, and in thought represented by mechanical inventions—this was the last to receive the protection of the law.

At this very moment, the right of a man to enjoy the fruit of the tree which he has planted and reared, to possess the full profits of his genius or talent, is denied by the laws even of the most civilized nations. He is permitted to have and to use only for a limited time what is the most truly his own of all earthly possessions, and then his property becomes the common prey of all who choose to appropriate it. Different countries began to legislate for authors and inventors at different periods. In England, the first enactment in their favour is not older than a century and a half. This limited the copyright to a very short term of years, which, after strenuous efforts, has recently been extended. But neither in England, continental Europe, or America, does the law recognize an author's rights in his works to be absolute and inalienable, and in no two countries is the same degree of right conceded. Everywhere the subject is as much a matter of statutory regulation as if the natural right of the author had no existence whatever.

An American author has, consequently, no available and legal control over his own literary productions beyond what the statute

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grants him. When the period of its protection expires, his intellectual family may be torn from his arms by the first domestic trader who chooses to risk their sale, and at all times the foreigner may make merchandize of his literary progeny. The legal rights of an author, then, are of local origin and power; beyond his own country he possesses none at all, and he cannot with a show of justice complain that the foreign bookseller reprints his works. To do so would be to act the part of the dog in the fable who was fain to prevent another from enjoying what he could not possibly use.

It is the fashion now-a-days to brand as piracy the republication of foreign works, and much vulgar abuse has been bandied between France and Belgium, and between England and the United States, which, we think, the view of the subject now presented would have changed into courteous remonstrance. The legal right to republish cannot be questioned, and its existence should protect all who exercise it from reproach. The equitable right to do so is a wholly different question, one which may and ought to be fully discussed in a spirit of temperance and conciliation. If it be true, as we believe, that no such right exists, it is high time that the law and the equity of the subject should be made to harmonize by the establishment of an international copyright.

The benefits of such a law would be incalculable, springing from the one glorious consequence, that through it the thinking and therefore the governing minds of two great nations, common in their origin and language, would be brought directly into contact and fused together, strengthening one another, by communion, rivalry, and example, and would with this redoubled strength reach and maintain with ease the vantage-ground of civilization against all the world besides. Commerce may knit together nations, but only in their material interests, binding them with the bonds of selfishness; but a free intellectual commerce is the noblest of all bonds, for it knits the souls of men.

A law such as would secure the rights which we assume to be absolute and inherent is perhaps the surest expedient that could be devised for promoting our native literature. Not only would it enable publishers to offer a fair remuneration to our authors, but it would also have the effect of causing a number of foreign works to appear first in this country; and since the sphere of influence presented by the millions of American readers is so far superior to any other, many a foreigner of genius and even of established reputation would speedily be numbered amongst our adopted citizens.

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Grafted thus with the strongest offshoots of the parent tree, American literature would rapidly attain a degree of luxuriance and fruitfulness, which is quite impossible under the present system of its culture, or rather neglect. But the benefits would be reciprocal; our writers would become English writers, and find an attentive and appreciating audience among a people who even now receive them gladly, and award to those who deserve it no scanty meed of praise.

Until within a short time, the copyright law of England, more liberal than our own, was construed to permit foreigners to enjoy privileges which are denied to British subjects in the United States. But by a recent decision in the Court of Exchequer, "a foreign author residing abroad, or his assigns, is not an author within the meaning, and could not have the benefit, of those acts which were intended for the encouragement of British talent and industry." In consequence of this decision, American works, which had been liberally paid for by certain English publishers, were immediately reprinted by others and sold at a reduced price; so that American books are now as completely at the mercy of the foreign trade as English works are at the mercy of our own. Considering how far from equitable the practice of American publishers has been, we dare not, with any show of reason, contend against the late unfavourable construction of the statute of Queen Anne, and must be content to witness the exclusion of our authors from a field where they were gaining emolument as well as honour, and destroying the prejudices entertained against us as an illiterate people, careless of success in any but commercial pursuits.

Nothing short of an international copyright law can place this matter upon an honourable footing; and so prevalent has the conviction of this truth become, that perhaps not a single man of letters, and scarcely a publisher of books, can now be found to oppose it. Not many years ago there was an equally general feeling adverse to the measure, at least among publishers, although there never was a time when our authors did not plead for justice to their foreign brethren and themselves. So marked yet gradual a revolution in opinion can be traced to no other cause than the power of truth. Yet it is not complete, nor will it be until Congress moulds it into the form of law, and, in conjunction with the British government, breaks down this wall of separation between two nations which else, "like kindred drops, had mingled into one."

But under a government like ours few important measures can be perfected, unless an impulse is received from without, unless the wishes

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of citizens who are chiefly interested be earnestly and distinctly expressed. In the present case, we conceive that there is no body of men more directly interested than the medical profession, and no organ which it can more suitably employ than the AMERICAN MEDICAL ASSOCIATION. No liberal pursuit whatever requires a larger supply of literary material than medicine; there is none which is so directly concerned with the professional literature of the Old World; none which in this country actually causes the publication of a greater number of books. If, therefore, the Association shall, as we confidently hope, see fit to commend this subject to the federal government, there is no doubt that its representations will be listened to with respect, and be allowed all the weight to which they are justly entitled. We have reason to feel encouraged by the result of our petition on another occasion, when it perhaps turned the scale to the side of justice, and crowned with success the patriotic labours which, without its aid, might have continued fruitless. But whether successful or not, the Association must feel a generous pride in asserting the claims of our national literature to be placed upon an equal footing with that of the Old World, and in contending for those rights of authors which the law is bound to recognize, since they are founded upon the unalterable principles of equity.

It is impossible to estimate the extent of good which must flow from any measure adapted to develop the literary talent of the United States. No country in the universe presents such a spectacle to the mind's eye as the prophetic maturity of this nation. Nor is the marvel only in the countless swarms of people that annually spread over the face of the land, and, after covering its plains and valleys with abundant harvests, grow clamorous for that purer and nobler food that nourishes the immortal soul. It is still more in those singular characteristics which are developed by the commingling of different races in this new world, that the mind is astonished, and filled with unspeakable forebodings of the high destiny to which we are tending. In England a not dissimilar union of the rude and delicate, of the strong and graceful, of the intellectual and boorish, has raised a small and sea-girt nation to the very pinnacle of human greatness. To that wonderful nation did Milton address these words, and could he stand in our midst this day, he could with no less truth address them to our own:—

"Lords and Commons of England! consider what a nation it is whereof ye are, and whereof ye are the governors: a nation not slow and dull, but of a quick, ingenious, and piercing spirit; acute

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to invent, subtile and sinewy to discourse, not beneath the reach of any point, the highest that human capacity can soar to."

In the American character almost every element which in Europe is reckoned to be national, is transfused and blended, and if in times past we received chiefly the homelier and hardier qualities, those of a more refined and delicate nature are rapidly becoming ours. Time was, indeed, when few besides the needy and the ignorant sought a home upon these shores. But now that an ardent culture of the arts and sciences manifests the progress of our civilization, and our literature feels that it no longer lives by sufferance of foreign criticism, the educated and learned are seeking amongst us not merely a temporary shelter from the tyranny of the mob or despot, but a permanent residence, and a theatre vast enough to fill the measure of their ambition, and in which they are well contented to play their fitting parts. Within the last few years, the fine arts, general literature, natural science, and medicine itself, have all received distinguished accessions to the ranks of their cultivators. The mere presence and example of these accomplished men have done much to stimulate our own disciples of knowledge, by keeping before them a higher standard than they were accustomed to contemplate. With steady and silent progress such humanizing influences spread throughout the country, and, joining in their way the active and onward movement of our own desires for intellectual greatness, they purify and dignify our civilization, and bring the nation nearer to that proud eminence which Reason no less than Patriotism assures us that it must attain.

As a summary of the views contained in this Report, the Committee beg leave to offer for adoption the following resolutions:—

Resolved, That the Association regards the cultivation of Medical Literature as essential to professional improvement, and as adapted to form one of the broadest lines of distinction between physicians and all pretenders to the name.

Resolved, That, in the opinion of this Association, it is equally the duty and the interest of the profession to sustain its periodical literature both by literary contributions and subscription.

Resolved, That, since literary excellence is best developed by literary studies, the formation of Medical Reading Clubs, after the plan set forth in this Report, is urged especially upon physicians in places where the periodical and other medical publications of the day are not readily accessible upon other terms.

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Resolved, That the Standing Committee on Medical Literature be instructed to report to the Association at its next meeting what American medical work, published during the year of their service, in their judgment is the most valuable, and that, with the consent of the Association, such work shall be formally proclaimed by the President.

Resolved, That State and local societies are hereby recommended to offer pecuniary rewards or other distinction for the best memoirs founded upon original observation.

Resolved, That Medical Colleges are hereby recommended to distinguish the best inaugural thesis of every year by a public announcement of its subject, and the name of its author, and by such other means as they may deem appropriate.

Resolved, That the sum of ONE HUNDRED DOLLARS, raised by voluntary contribution, be offered in the name of this Association for the best *experimental* essay on a subject connected either with physiology or medical chemistry, and that a committee of seven be appointed to carry out the objects of this resolution: said committee to receive the competing memoirs until the first day of March, 1851; the authors' names to be concealed from the committee, and the name of the successful competitor alone to be announced after the publication of the decision.

ALFRED STILLÉ, *Chairman*.
FRANCIS G. SMITH, JR.,
T. H. YARDLEY,
J. B. JOHNSON.

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E.—1.

ORIGINAL ARTICLES OF INTEREST PUBLISHED IN AMERICAN JOURNALS SINCE MAY, 1849.

ANATOMY.		
Title.	**Author.**	**Journal.**
Observations on the Occipital and Superior Maxillary bones of the African Cranium,	John Neill, M. D., of Philadelphia,	Am. Journ., Jan. 1850.
Case of Congenital Deficiency of the Superior portion of the Cranium,	John W. H. Trugien, M. D., of Portsmouth, Va.,	Am. Journ., Oct. 1849.
Case of Malformation of the Cranium, Encephalon, and Spinal Cord,	John C. Dalton, Jr., M. D., of Boston,	Amer. Journal, April, 1850.
Original Observations on the Structure of the Eye,	T. Wood, M. D., of Cincinnati,	West. Journ. & Hosp. Reporter, Nov. 1849.
Notice of the Anatomical Phenomena in a Case of Ligature of the Subclavian Artery,	T. S. Ainsworth, M. D., Boston, Mass.,	Am. Journ., Jan. 1850.

PHYSIOLOGY.		
Title.	**Author.**	**Journal.**
Relations of Nitrogen to Respiration and Vocalization or Phonation,	James Moultrie, M. D., of Charleston,	Cha'ston Med. Journ. & Rev., May, 1849.
An Investigation of the Cases of Hybridity in Animals on Record, considered in reference to the unity of the human species,	John Bachman, M. D., of Charleston,	Charleston Journal, March, 1850.
Contributions to Physiology,	Bennett Dowler, M. D.,	N. O. Med. and Surg. Journ., Nov. 1849.
The Production of the Vital Force,	Edward Jarvis, M. D.,	Med. Communications of the Mass. Med. Soc., 1849.
Experiments and Observations on Tendrils and Vines, evincing a principle of attraction in plants and trees during their growth,	D. B. Black, M. D.,	Bost. Med. and Surg. Journ., Sept. & Oct. 1849.
Marrying Cousins,	Enos Stevens, M. D.,	Bost. Med. and Surg. Journ., Sept. 1849.

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GENERAL PATHOLOGY, MORBID ANATOMY, HYGIENE.

Title.	Author.	Journal.
The Philosophy of Medicine; an Address, &c.,	John Le Conte, M. D.,	South. Med. and Surg. Journ., May, 1849.
Lecture Introductory to the Study of the Principles and Practice of Medicine (General Pathology),	Austin Flint, M. D.,	Buffalo Med. Journal, &c., Sept. 1849.
Researches upon the Vital Dynamics of Civil Government,	Bennet Dowler, M. D.,	N. O. Med. and Surg. Journ. May, 1849.
On some points of Hygiene and their Connection with the Propagation of Yellow Fever,	P. C. Gaillard, M. D., of Charleston,	Cha'ston Med. Journ. and Rev., May, 1849.
On the Influence of Sea Life upon Health,	R. McSherry, M. D., U. S. N.,	Am. Journ., Oct. 1849.
Notice of some Experiments in Heating and Ventilating Hospitals and other Buildings by Steam and Hot Water, with Remarks,	Thos. Kirkbride, M. D., of Philadelphia,	Amer. Journal, April, 1850.
On the Action of Poisons,	James Blake, M. D., F. R. C. S. E., of St. Louis,	Amer. Journal, July, 1849.
Remarks on Ozone, and its Supposed Influence in the Production of Epidemic Diseases, especially of Epidemic Cholera,	Robert Peter, M. D., of Lexington, Ky.,	Transyl. Med. Journ., Oct. 1849.
On Contagion,	S. H. Dickson, M. D., of Charleston,	Amer. Journal, July, 1849.
On Malaria,	Sam. Henry Dickson, M. D.,	N. Y. Journ. of Med., Sept. 1849.
On Malaria,	J. R. Black, M. D.,	Ohio Med. and Surg. Journ., Sept. 1849.
Observations on Malarious Influences,	W. L. Jones, M. D.,	South. Med. and Surg. Journ., Aug. 1849.
Inflammation and its Consequences (continued),	J. P. Batchelder, M. D.,	N. Y. Journ. of Med., Nov. 1849.
On the Physiology, Pathology, and Therapeutics of Pain,	Prof. J. P. Harrison,	Western Lancet and Hosp. Rep., June, 1849.
Pathological Relations of the Mouth,	W. R. Handy, M. D.,	Am. Journ. of Dental Science, Oct. 1849.
On the Relations of Pathological Anatomy to Medicine,	S. Hanbury Smith, M. D.,	Ohio Med. and Surg. Journ., Jan. 1850.
Contributions to Pathological Anatomy,	John Neill, M. D., of Philadelphia,	Amer. Journal, July, 1849.
Observations on the Theory of Phosphorescence,	W. P. Hart, M. D.,	N. O. Med. and Surg. Journ., May, 1849.
Report on the Changes revealed by the Microscope in the Intestinal Mucous Membrane of Persons dead by Cholera,	Drs. Jackson, Pepper, and Neill,	Trans. of the Philad. Coll. of Phys., Dec. 1849.

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EPIDEMIC AND ENDEMIC DISEASES; MEDICAL TOPOGRAPHY.		
Title.	Author.	Journal.
Observations on the Fever which is developed in the City of Charleston after exposure to Country Air during the Summer and Autumn, and which is hence called COUNTRY FEVER,	Thomas Y. Simons, M. D.,	Cha'ston Med. Journ. and Review, Sept. 1849.
On the Epidemics of Savannah, Geo., in 1847 and 1848; Cynanche Trachealis, &c.,	R. D. Arnold, M. D., Savannah,	Cha'ston Med. Journ. and Review, July, 1849.
An Account of a Malignant Epidemic (Congestive Typhus) which prevailed, in the early part of 1849, at, and in the vicinity of, Mecklenburg,	Nelson Ivison, M. D.,	New York Journ. of Med., Sept. 1849.
On the Diseases of Dallas County, Ala.,	F. A. Bates, M. D.,	N. O. Med. and Surg. Journ., Sept. 1849.
An Account of the Yellow Fever at New Orleans in the year 1848,	E. D. Fenner, M. D.,	N. O. Med. and Surg. Journ., July, 1849.
On the Diseases of Cahawba (Ala.), and its Vicinity,	J. A. English, M. D.,	N. O. Med. and Surg. Journ., Sept. 1849.
Typhoid Fever as it presents itself in North Alabama,	James Kyle, M. D.,	Ohio Med. and Surg. Journ., July, 1849.
Ship Fever,	A. C. Castle, M. D.,	Boston Med. and Surg. Journ., May, 1849.
On Irregular Malarious Diseases and their Counteraction by means of Strychnine,	J. P. Kirtland, M. D.,	Ohio Med. and Surg. Journ., July, 1849.
Practical Remarks upon the Treatment of Simple and Complex Forms of Intermittent Fevers,	A. H. Howland, M. D.,	North-West. Med. and Surg. Journ., April and May, 1849.
Fevers of Summer and Winter; their Causes and Treatment,	Charles G. Ballard, M. D.,	North-West. Med. and Surg. Journ., July, 1849.
An Essay on Intermittent and Remittent Fevers,	J. P. Evans, M. D., of Tazewell, Tenn.,	Cha'ston Med. Journ. and Rev., Nov. 1849.
Observations on Remittent Fever,	John Dawson, M. D., of Jamestown, Ohio,	West. Lancet & Hosp. Rep., Aug. 1849.
On Epidemic Dysentery,	Samuel Jackson, M. D. (late of Northumberland), of Philad.,	Med. Examiner, Dec. 1849.
A Peculiar Species of Epidemic Erysipelas,	W. J. Tuck, M. D.,	N. O. Med. and Surg. Journ., May, 1849.
On the Medical Topography of St. John's, Berkley, S. C., and its Relations to Geology,	E. Ravenel, M. D.,	Cha'ston Med. Journ. and Rev., Nov. 1849.
Medical Sketch of West Point, N. Y., during the Summer of 1849,	R. Southgate, M. D.,	New York Journ. of Med., March, 1850.
A Brief Account of the Origin, Progress, Symptoms, Mortality, and Treatment of Pestilential Cholera, as it occurred in the Mississippi Valley, and especially in the City of Memphis,	Lewis Shanks, M. D., of Memphis, Tenn.	Amer. Journal, July, 1849.

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EPIDEMIC AND ENDEMIC DISEASES; MEDICAL TOPOGRAPHY.		
Title.	Author.	Journal.
On the Contagiousness of Cholera,	E. C. Bidwell, M. D.,	Ohio Med. and Surg. Journ., Sept. 1849.
Observations on the Spread of Asiatic Cholera, and its Communicable Nature,	John Evans, M. D., of Chicago,	North-West. Med. and Surg. Journ., Sept. 1849.
Statistical Remarks on the Epidemic Cholera which prevailed in New Orleans from Dec. 12th, 1848, to June, 1849,	J. C. Simonds, M. D., of New Orleans,	Cha'ston Med. Journ. and Rev., Sept. 1849.
The Cholera, and the Influences which Favour or Retard its Diffusion,	N. S. Davis, M. D.,	North-West. Med. and Surg. Journ., March, 1850.
History of the Asiatic Cholera at Quarantine, Staten Island, New York, in Dec. 1848 and Jan. 1849,	J. W. Sterling, M. D.,	New York Journ. of Med., July, 1849.
Remarks on Cholera; its Origin, Mode of Propagation, &c.,	W. P. Hort, M. D.,	N. O. Med. and Surg. Journ., Nov. 1849.
Remarks on Asiatic Cholera in the City of New York in 1848 and 1849,	W. P. Buel, M. D.,	New York Journ. of Med., Jan. 1850.
Report on the Epidemic Cholera at Buffalo in 1849,	Austin Flint, M. D.,	Buffalo Med. Journ., Nov. 1849.
History of the Cholera Epidemic as it appeared in the City of Newark, N. J., from June to Oct. 1849,	J. Henry Clark, M. D.,	New York Journ. of Med., March, 1850.
History of the Epidemic of Cholera at the Philadelphia Almshouse, Blockley, in the Summer of 1849,	Moreton Stillé, M. D., and Edw. R. Mayer, M. D., of Philad.,	Med. Examiner, Nov. 1849.
Cholera as it appeared in Clarksville, Tenn.; with Reflections,	E. B. Haskins, M. D.,	West. Journ. of Med. and Surgery, July, 1849.
Remarks on Epidemic Cholera,	F. B. Page, M. D., La.,	Boston Med. and Surg. Journ., July, 1849.
Report on Asiatic Cholera,	J. Wynne, M. D.,	Boston Med. and Surg. Journ., Aug. 1849.
Animalculæ Discovered in the Dejections of Cholera Patients,	J. S. Plummer, M. D., Richmond, Ind.,	West. Lancet & Hosp. Rep., Nov. 1849.
Animalculæ in the Atmosphere of Cholera Patients,	R. D. Mussey, M. D., of Cincinnati,	West. Lancet & Hosp. Rep., Nov. 1849.
Diet in Cholera,	W. R. Handy, M. D.,	Med. Examiner, Oct. 1849.
Cholera; the Sedative plan of Treatment,	J. L. Adkins, M. D., of Philadelphia,	Med. Examiner, Sept. 1849.
History of Epidemic Cholera in St. Louis in 1849.	W. M. McPheeters, M. D.,	St. Louis Medical and Surg. Journ., April, 1850.

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SPORADIC DISEASES.		
Title.	Author.	Journal.
Case of Cerebral Irritation,	Edward R. Squibb, M. D., Asst. Surg. U. S. N.,	Am. Journ., Oct. 1849.
Remarks on Delirium Tremens,	Frank A. Ramsey, M. D.,	Cha'ston Med. Journ. and Review, March, 1850.
Remarks on Serous Effusions within the Arachnoid Cavity; with Cases,	Austin Flint, M. D.,	Buffalo Med. Journal and Review, April, 1850.
Observations on Pseudo-Apoplexy with a permanently slow pulse,	D. J. C. Cain, M. D., of Charleston, S. C.,	Cha'ston Med. Journ. and Review, May, 1849.
Abscess in the Substance of the Brain; the Lateral Ventricles opened by an operation,	Wm. Detmold, M. D., of New York,	Amer. Journal, Jan. 1850.
Case of Cancerous Disease of the Spinal Cord,	C. A. Lee, M. D.,	New York Journ. of Med., Sept. 1849.
On a Form of Disease resembling some advanced stages of mania and fever, but probably an overlooked, and hitherto unrecorded, malady,	Luther V. Bell, M. D.,	Amer. Journal of Insanity, Oct. 1849.
The Relation between Phrenology and Insanity,	H. A Rudolph, M. D.,	Amer. Journal of Insanity, Oct. 1849.
Insanity, its Nature and Treatment,	John R. Allen, M. D., Superintend. of the Ky. Asylum,	Transyl. Med. Journ., Oct. and Dec. 1849.
On the Coercive Administration of Food to the Insane,	Luther V. Bell, M. D.,	Amer. Journal of Insanity, Jan. 1850.
The Statistics of Insane Hospitals,	J. Ray, M. D.,	Amer. Journal of Insanity, July, 1849.
Houses and Institutions for the Insane, from the German of Zeller,		Amer. Journal of Insanity, June, 1850.
Lectures on the Pathology, Diagnosis, and Treatment of Diseases of the Chest,	L. M. Lawson, M. D., of Cincinnati,	West. Lancet & Hosp. Rep., Jan. 1850.
Topical Treatment of the Respiratory Passages,	Geo. Bartlett, M. D.,	Boston Med. and Surg. Journ., March, 1850.
Pleuro-pneumonitis complicated with Pericarditis,	Austin Flint, M. D.,	Buffalo Med. Journ., Feb. 1850.
Observations on the Prevention of Phthisis, and its proper Treatment in the Early Stage; with cases illustrating its natural history.	Edward Hallowell, M. D., of Philad.,	Am. Jour., Jan. 1850.
On Angina Pectoris,	Sam. Kneeland, M. D.,	Am. Journ., Jan. 1850.
Chronic Hiccough of seven years standing following Whooping Cough, and cured by Strychnine,	J. G. F. Holston, M. D., of New Concord,	West. Lancet & Hosp. Rep., Sept. 1849.
Observations and Suggestions on the Motive of Scarifying the Gums during the period of Dentition,	A. C. Castle, M. D.,	Boston Med. and Surg. Journ., Oct. 1849.

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SPORADIC DISEASES.		
Title.	Author.	Journal.
Case of Umbilical Hernia in Infants,	J. Homans, M. D.,	Boston Med. and Surg. Journ., July, 1849.
On Hemorrhage from the Umbilicus in New-born Children; with Cases,	H. J. Bowditch, M. D., of Boston,	Am. Journ., Jan. 1850.
Essay on Intestinal Auscultation,	Charles Hooker, M. D.,	Boston Med. and Surg. Journal, Jan. and July, 1849.
On the Prevention of Constipation,	Jno. C. Warren, M. D.,	Amer. Journ., April, 1850.
A Clinical Lecture on Colic,	L. A. Dugas, M. D.,	South. Med. and Surg. Journ., Oct. 1849.
Report on the Diagnostic Signs of Portal Phlebitis,	W. C. Roberts, M. D.,	New York Journ. of Med., May, 1849.
Two Cases of Nephritis produced by over-doses of Balsam Copaiba,	D. W. Yandell, M. D., of Louisville,	West. Journ. of Med. and Surgery, July, 1849.
On Urinary Calculi,	Robert Peter, M. D.,	Transyl. Med. Journ., Dec. 1849.
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Ligature of the Common Carotid Artery,	J. P. Mettauer, M. D., LL. D., of Randolph, Macon College, Va.,	Am. Journ., Oct. 1849.
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Title.	**Author.**	**Journal.**
Case of Successful Extirpation of a Fibrous Tumour of the Right Ovary, by the large Peritoneal Section,	Washington L. Atlee, M. D., of Philad.,	Amer. Journal, Oct. 1849.
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Obituary Notice of the late Dr. Thomas T. Hewson,	Franklin Bache, M. D.,	Trans. of Phil. Coll. of Phys., Jan. 1850.

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An Historical Sketch of the State of Medicine in the American Colonies, from their first Settlement to the Period of the Revolution, 2d ed., pp. 63,	John B. Beck, M. D.
Physician and Patient; or, a Practical View of the Mutual Duties, Relations, and Interests of the Medical Profession and the Community,	Worthington Hooker, M. D.
A Philosophical Essay on Credulity and Superstition; and also on Animal Fascination and Charming,	Rufus Blakeman, M. D.
Manual of Pathology and Practice of Medicine,	S. Henry Dickson, M. D.
A Dissertation on the Practice of Medicine,	Tomlinson Fort, M. D.
Epidemic Cholera; its History, Causes, Pathology, and Treatment,	G. B. Coventry, M. D.
A Practical Treatise on the Diseases of Children, 3d ed., revised and augmented,	D. Francis Condie, M. D.
The History, Diagnosis, and Treatment of Œdematous Laryngitis (Pamphlet),	Elisha Bartlett, M. D.
On the Diseases of Infants and Children,	Fleetwood Churchill, M. D., M. R. I. A.
An Essay on Intestinal Auscultation (Pamphlet),	Charles Hooker, M. D.
Surgical Essays and Cases in Surgery,	David L. Rogers, M. D.
A Treatise on the Etiology, Pathology, and Treatment of Congenital Dislocations of the Femur,	John Murray Carnochan, M. D.
The Practice of Surgery; embracing Minor Surgery, and the Application of Dressings,	John Hastings, M. D., U. S. N.

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Title.	Author or Translator.
The Uses and Abuses of Air; showing its influence in sustaining Life and producing Disease (Redfield, N. Y.),	J. H. Griscom, M. D.
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A List of the Medicinal Plants of Ohio (not embraced in Wood and Bache's U. S. Dispensatory), containing, as far as known, a brief account of their properties,	John M. Bigelow, M. D.
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A Universal Formulary; containing the Methods of Preparing and Administering Officinal and other Medicines. The whole adapted to Physicians and Pharmaceutists,	R. Eglesfeld Griffith, M. D.
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Effects of Chloroform and of strong Chloric Ether, as Narcotic Agents,	John C. Warren, M. D.
The Three Kinds of Cod-Liver Oil, comparatively considered, with reference to their Chemical and Therapeutic Properties, by L. J. de Jongh, M. D., translated, with an Appendix and Cases,	Edward Carey, M. D.
An Essay on the Opium Trade (Pamphlet),	Nathan Allen, M. D.
Treatise on Epidemic Cholera, by Ambrose Tardieu, M. D., translated from the French,	S. L. Bigelow, M. D.
A Theoretical and Practical Treatise on Midwifery, including the Diseases of Pregnancy and Parturition, by P. Cazeaux, D. M. P., translated from the 2d French edition,	Robert M. Thomas, M. D.
A Manual of Auscultation and Percussion, by MM. Barth and Rogers. Translated, with additions, 2d edition,	Francis G. Smith, M. D.
A Treatise on the Diseases and Special Hygiène of Females, by Colombat de L'Isère. Translated from the French, with additions. A new edition,	Charles D. Meigs, M. D.
Annual Report of the Physician of the Marine Hospital of New York (Pamphlet),	F. C. Stewart, M. D.
Anniversary Oration before the New York Academy of Medicine (Pamphlet),	Alfred C. Post, M. D.
Report of the Committee of internal health of Boston, on the Asiatic Cholera, together with a Report of the City Physician on the Cholera Hospital (Pamphlet),	Drs. Clark, Buckingham, Dalton, and Williams.

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Title.	American Editor.
Principles of Human Physiology, &c., by Wm. B. Carpenter, M. D., F. R. S., &c., 4th American edition, with extensive additions and improvements by the Author.	
Copland's Dictionary of Practical Medicine, Part XXI., Pree—Rect,	Charles A. Lee, M. D.
Surgical Anatomy. By Joseph Maclise, Surgeon, Part I. and II.	
A Treatise on diseases of the Bones. By Edward Stanley, F. R. S.	
Parturition and the Principles and Practice of Obstetrics. By Tyler Smith, M. D.	
A Practical Compendium of Midwifery, by the late Robert Gooch, M. D. Edited by George Skinner, M. R. C. S. L.	
The Diseases of Females, including those of Pregnancy and Childbirth. By Fleetwood Churchill, M. D. A new American edition revised by the author, with the notes of,	R. M. Huston, M. D.
A Practical Treatise on Inflammation of the Uterus and its Appendages, &c. &c. By H. Bennett, M. D. 2d edit. much enlarged.	
A Conspectus of the Pharmacopœias of the London, Edinburgh, and Dublin Colleges of Physicians, and of the U. S. Pharmacopœia. By Anthony Todd Thompson, M. D., F. L. S. Fifth edition, much enlarged and improved.	Charles A. Lee, M. D.
Anæsthesia; or the employment of Chloroform and Ether in Surgery, Midwifery, &c. By J. Y. Simpson, M. D., F. R. S. E.	
Medicines, their uses and mode of Administration. By J. Moore Neligan, M. D. Second edition, with additions.	B. W. McCready, M. D.

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REPORT OF A SPECIAL COMMITTEE ON THE MEASURES SUGGESTED IN THE REPORT ON MEDICAL LITERATURE FOR 1849.

The Committee appointed at the Session of the American Medical Association, held at Boston, on the first day of May, 1849, to take into consideration the measures recommended in the Report of the Committee on Medical Literature, for the encouragement and maintenance of a National Medical Literature, with instructions to report at the present session, would respectfully submit the following views for the consideration of the Association:—

Your Committee have carefully considered the several recommendations for the promotion of a national medical literature, submitted for their judgment, and while they fully admit the propriety of nearly all of them, and appreciate the excellency of the motives which prompted their suggestion, there are nevertheless one or more of them from which your Committee will be obliged to express their dissent, being convinced that the attempt to carry them into effect would be attended with insurmountable difficulties, and even if this should not be the case, that their practical working would be to impede rather than to further the object they were intended to effect.

Every measure likely to promote and encourage our national medical literature presents strong claims upon the attention of this Association. Your Committee are persuaded, that in relation to the means best adapted to secure this important result there can exist little, if any, difference of opinion. All who have carefully considered the subject must admit that it is not by extraneous aids, nor the patronage of colleges or associations, that a national medical literature is to be formed or maintained; but that it is to be accomplished alone by a proper attention to the preliminary and professional education of those who enter our profession, as well as by a careful training of them, both before and after their admission, in habits of close and

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accurate observation, and in the practice of carefully recording and comparing the various facts which fall under their notice in their daily routine of clinical instruction and practice. It is by increasing in our midst the number of those competent to produce works calculated to add to the stock of professional knowledge, either by the adduction of new facts, or by the establishment of new principles based upon a more accurate explanation of the facts contributed by preceding or cotemporary observers that our national medical literature is to be promoted. The American profession are by no means inclined to withhold their support from native talent. Whenever a work has been produced by one of our own physicians, the intrinsic merits of which were such as to command the patronage of the profession, that patronage has been freely bestowed, and the author has invariably reaped his reward in reputation, if not in an adequate pecuniary compensation.

Quite a respectable list could be presented of medical publications by American physicians which have received the support of the profession, and are referred to as authorities both at home and abroad; nevertheless, it must be admitted that the original works of acknowledged merit from our own physicians are comparatively few in number, and that, for some time to come, the medical literature of this country cannot be expected to compare in copiousness with that of Europe. Few members of the profession in the United States have been trained in habits of composition; few, also, are inclined, even if they had the time and opportunities, to devote themselves to the labour of close study, or to undertake a long series of observations or of investigation. The able and skillful physician, in this country, has his time and attention almost exclusively occupied by the duties of an extensive practice, the calls of which constantly break in upon the chain of thought and the close mental application necessary for the production of works that shall command the approval and patronage of the profession.

From the field of private practice, the industrious and observing physician will, it is true, always be able to cull materials calculated to aid in the onward progress of our science; and the frequent valuable communications from American practitioners, contained in the medical journals of our country, prove that they have not neglected the cultivation of the field of observation within their reach. But for the works which are to give to our national medical literature weight and character, we are to look to those who have the charge of public hospitals and other medical charities. Our

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country, however, possesses, as yet, but few of these institutions sufficiently extensive to afford materials for any extended series of clinical observations; consequently the physicians of the United States are as yet shut out from one of the most important means of becoming able and distinguished medical writers.

In the recommendations contained in the Report on Medical Literature for 1849, all that relates to the preliminary education and the proper training of the professional novitiate deserves the hearty approval of the Association.

A good preliminary education in those who would devote themselves to the study of medicine is of the first importance. No one should be admitted as a student of medicine until he has become well grounded in a knowledge of his own language, at least, and is conversant with the elements of the natural sciences generally. Some acquaintance with the Latin and Greek is also desirable, and still more so a facility in reading and translating the French and German. The more advanced the preliminary education of the student the better; your Committee have pointed out the lowest degree of requirements in this respect, but would urge upon parents and preceptors the importance of a still higher grade.

The order in which the several subjects embraced in a medical education are studied is of some consequence. Botany, Materia Medica, Anatomy and Physiology should be attended to first. Medical Chemistry may be pursued nearly cotemporaneously. After an adequate acquaintance with these branches, a knowledge of the nature, causes, symptoms, and cure of disease, under the heads of pathology and therapeutics—the practice of medicine and surgery—with the collateral branch of obstetrics, will be more readily understood and acquired.

It is a good suggestion on the part of the Committee on Medical Literature, that the course of reading prescribed to the student should be prosecuted with the pen in his hand, so that he may be ready to note down the leading facts presented by the several authorities perused by him. Pursued systematically and with care, the habit of taking notes from whatever book is read, is calculated to render the information it imparts more clear and precise, and to fix it more indelibly upon the mind. To derive from the practice all the advantages it is calculated to afford in facilitating the acquisition of knowledge, requires, however, that it should be properly pursued. As in all systematic works there must necessarily be, to a greater or less extent, a repetition of facts and principles, which are the

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common property of the profession, if there be a careful selection made of the books placed in the hands of the student, and a proper indication of the order in which they are to be read by him, he will find it unnecessary, in the course of his studies, to note any other than the new facts and ideas developed by each successive author, or such corrections of his former notes as the later authorities may suggest. The notes of the student should be mainly confined to facts and leading principles, and to references to particular subjects for subsequent more extended investigation. The theories and opinions of the authors, or the discussion of mere speculative questions he had better pass over with a simple reading; when he becomes more fully grounded in the established facts and principles which form the basis of the several branches of medical science, he can, with more profit, return to the study of the theories that have been advanced by the leading authorities in each of those branches. While the practice of taking notes is a valuable aid to the studying from books, and is essential to fix upon the memory the instruction conveyed by lectures, it is, if possible, still more important in the acquisition of knowledge by personal observation at the bedside of the sick. After a proper period has been spent by the student in the acquisition of the elements of medical knowledge, an opportunity should be afforded him under the eye of his preceptor to study disease in the living subject; and of the cases thus submitted to his examination he should be required to take notes; and, at a proper period, to present a regular history, the errors and deficiencies of which should be carefully pointed out to him. In this manner, the clinical study of diseases is made familiar to the novice, and he is early prepared to bring into practice the information he has acquired from books, and from the instructions of his preceptor. This, with frequent examinations upon the authors read, and the requirement of short written essays upon given topics, while it will aid the student in the acquisition of medical knowledge, will, at the same time, tend to render that knowledge more exact and indelible, and place it more fully at his command, when he is called upon to exercise it for the advantage of his patients.

The suggestion that our medical schools should bestow some token of approval, some mark of distinction upon the author of the best inaugural thesis appears to your Committee to be a very judicious one. Such mark of approval or distinction, if properly awarded, will certainly be calculated to stimulate industry, and prompt to the production of valuable contributions upon all those branches of

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medicine, the investigation of which falls within the scope of the student. The term *best* being, however, simply comparative, does not indicate precisely the character of the thesis for the production of which such a distinction is due. Among a large number of indifferent theses the best might scarcely deserve distinction, while, on the other hand, the lines of medical investigation are so numerous and distinct that several theses might be presented, each excellent in its kind, but between which no comparison could be made; it would be better, perhaps, therefore, to have it understood that every kind of excellence, either in the way of original investigation, in the careful repetition and correction of preceding observations, or in the exhibition of a strong discriminative and analytical talent would command for its author some mark of distinction.

After the physician has entered upon the active duties of his profession, it is still necessary that he continue without intermission the habits of study he has acquired during his novitiate, if he would perform properly his duty to the sick committed to his charge, or if he aspire to the reputation of a medical writer or teacher. He is required not only to study disease at the bedside of his patients, but also to keep himself well informed on the progress of the profession as presented in the communications of cotemporary physicians poured in upon him from every portion of the civilized world.

We need hardly allude to the importance of every physician taking regularly one or more of our medical journals. The value of these publications to the practitioner can scarcely be overrated. As at present conducted, many of them present, for a trifling expenditure of time and money, a very full and accurate summary of the progress of the different departments of medical science. Although in presenting the onward movement of these—in indicating the addition of new facts and the correction, by a more accurate and extended series of observations, of former errors, the medical journals may not always furnish all the information desired upon particular points of inquiry, they will, nevertheless, be found, very generally, to point out the sources from which that information may be derived.

Few of our physicians possess ample libraries, in consequence of their restricted means precluding them from the purchase of any other than a very few standard books; hence, the formation of county or district medical libraries becomes a matter of much importance throughout every portion of the United States. Small, well-selected libraries, accessible to the practitioners of each vicinity, are calculated to do far more good, from their readiness of access, than more

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extensive and valuable libraries placed beyond the reach of a large portion of those for whose use they were established. If local medical societies were organized in each neighbourhood where a number of physicians are located, independently of the advantages that would accrue to their members by the opportunities they would afford of promoting professional intercourse and an interchange of personal experience, very respectable libraries might, also, through them, be established and sustained, embracing most, if not all the standard medical works, and one or more of the American, British, French and German journals of the day at a very trifling expense to the members. Twenty, thirty, forty or fifty physicians of any given neighbourhood, would be able to raise a fund, by the payment of from five to ten dollars annually, sufficient for the purchase of nearly all the more valuable medical publications, domestic and foreign, as they issue from the press, and, in a few years, to accumulate a library of great value—the beneficial influence of which would soon be acknowledged to be cheaply purchased by the small annual charge upon each member.

The profession in this country is scarcely prepared at the present day for the support of journals devoted to special branches of medical science. The journals now in existence, of a general character are inadequately patronized, and we fear that the support extended to journals on particular subjects would be still less, even if the materials for the supply of their pages could be obtained. The foreign journals of chemistry, pharmacy, pathology, hygiene, obstetrics, and the diseases of children might, however, be made available to the profession in the United States through the medium of the libraries suggested above. The expense necessary to procure them which prevents individuals from obtaining them for their own use, by being divided among many persons would be scarcely felt by any.

The appointment of a central committee to receive and carefully read the original or translated works presented to them by American writers, and to have them published under the superintendence of the said committee, is strongly urged upon the Association in the report of the Committee on Medical Literature for 1849. A number of arguments are advanced in favour of the measure calculated, at first sight, to recommend it to a very favourable consideration.

But upon a more careful investigation of the proposed plan of promoting a national medical literature, by the Association assuming the responsibility of the publication of such native works of merit as may be submitted to them, your Committee fear that it will be

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found impracticable, or, if not so, but little adapted to produce the desired results.

It would be very difficult to procure individuals qualified in all respects to fulfil the important and arduous duties which will devolve upon such a committee as the one proposed, who would be willing, even for an adequate compensation, to devote the time and labour which the careful reading of manuscripts, the comparison of translations with their originals, and the superintendence of the publication and sale of such works as they should judge worthy, would require; or who could be induced under any circumstances to assume the responsibility of deciding upon the merits of the several works submitted to their judgment, with the ungracious task of rejecting the production of an author, whose own estimate of its value is very clearly indicated by the fact of his submitting it for publication.

Without compensation, it would be scarcely possible to induce any one to serve upon the proposed central committee of censorship and publication; and your Committee fear that they who would be willing in view of a salary to assume the labour and responsibilities which would necessarily devolve upon that committee, would not be those whose qualifications would best fit them to carry out its objects with justice to the authors whose productions should be submitted for their judgment, or to the Association upon which would fall the censure and the loss incident upon the errors of judgment and the mismanagement of the committee.

Your Committee doubt, also, even if all the difficulties which stand in the way of the proper organization and successful management of the central committee could be overcome, whether many original works of a character to warrant their publication would be presented to them. Authors who feel conscious of their ability to produce a work of real merit upon any of the branches of medical science, would hesitate long before they would submit their production to the censorship of any committee this Association might appoint. The fact that works have been condemned as worthless by boards of censors, which upon their publication have received the approval of competent judges, and have been handed down to, and received by posterity as productions of unquestionable value, might induce a sensitive author rather to suppress what he has written than to allow its publication to be made dependent upon the approval of a committee.

There is another difficulty which would stand in the way of the

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successful working of the proposed scheme for the promotion of a national medical literature, and that is, the ill-feeling and resentment that will be engendered in the breast of a portion, at least, of those whose works are rejected by the central committee. This would become a constant source of disquiet to the Association, that would materially impede the beneficial results of its labours for the good of the profession generally, and would, your Committee fear, tend to bring about its speedy dissolution.

A leading objection to the recommendation of the Committee on Medical Literature, and one which your Committee are persuaded is alone sufficient to cause its rejection, is the expense, labour, and responsibilities in which the Association will become necessarily involved, through the operations of its central committee. To undertake, as is proposed, the publication and sale of medical works, assuming that such will be presented to, and approved by the committee, will at once establish, under the care of the Association, a bookselling establishment, with agencies in the different sections of the Union, and the unavoidable accompaniment of correspondence, clerkship, and financial arrangements, which the Association could not consistently enter into, or maintain with credit, and above all, an outlay of capital which it could not command.

Even if the scheme proposed by the Committee on Medical Literature were free from all the objections suggested by your Committee, were it possible for the Association to carry it into effect, they scarcely believe it to be necessary in order to ensure the establishment and support of a national medical literature. If the sale of the works published by the Association should be such as to prevent any loss in the end, there would be no difficulty in finding booksellers who would be willing to undertake their publication and compensate the authors, inasmuch as the expense of printing and disposing of such works would be considerably less to a bookseller than to the Association. Every respectable publisher has within his reach the means of acquiring a very accurate acquaintance with the value of a medical work offered to him for publication, and, probably, a much better opportunity of determining the probable chance of disposing of an edition of it, a question which, unless the Association would be willing to undertake the publication of unsaleable works, would have to be taken into consideration by it as well as by the bookseller.

In conclusion, your Committee would present to the Association, in the form of a resolution, a summary of the conclusions at which

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they have arrived, after a careful examination of the subject submitted for their consideration.

Resolved, That in the opinion of this Association the only legitimate means within our reach for the encouragement and maintenance of a National Medical Literature, are to increase the standard of preliminary and professional education required of those who would enter the medical profession; to promote the circulation among the members of the profession of the medical journals of the day; to encourage the establishment of district medical libraries, and to induce every practitioner to cultivate, with care, the fields of observation and research that are within his reach.

W. E. HORNER, *Chairman.*
D. FRANCIS CONDIE.
ISAAC HAYS.

May 1st, 1850.

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G.

REPORT OF THE SPECIAL COMMITTEE ON A MEMORIAL TO CONGRESS IN FAVOUR OF AN INTERNATIONAL COPYRIGHT LAW.

THE Committee appointed by the American Medical Association, May 4th, 1849, to prepare a Memorial to Congress in favour of an *International Copyright Law*, and to submit the memorial to the Association at its next annual meeting, ask leave to report:—

That they have attended to the duty assigned to them, and herewith offer, for the approval of the Association, a memorial, in which they have endeavoured, as succinctly as possible, to set forth the facts and considerations which may be urged in favour of the passage by Congress of an International Copyright Law, as proposed.

GEO. B. WOOD, } *Committee.*
ISAAC HAYS, }

PHILADELPHIA, *March 25th*, 1850.

To the Senate and House of Representatives of the United States of America.

The American Medical Association ask leave most respectfully to bring before your honourable bodies the subject of an International Copyright Law.

Believing that every one has a natural right of property in the products of his own industry and talents, they hold that it is the duty of civilized communities to give to such right the protection of a legal sanction. This duty is recognized by the Government of the United States towards their own citizens. But your memorialists would respectfully suggest that the obligation in justice extends to all men. The literary production, the discovery, or the invention of any individual is not less truly his own because he happens to have been born and to reside within or without certain limits. Nor is he less entitled to protection in his right on the one side than on

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the other of these limits. The Association would, therefore, urge upon your honourable bodies the propriety of extending to aliens the same legal privileges, in this respect, as are enjoyed by citizens of the United States. But it is more especially to the right in literary productions that they would now call your attention. These appear to them peculiarly to require protection; as by their very nature they can become valuable only by being made public, and thus accessible to all. But justice, to be complete, must be reciprocal; and they would, consequently, ask only that the privilege of availing themselves of our copyright law should be granted to the inhabitants of those States in which a similar privilege is or may be extended to our own writers.

In requesting that this justice be done to writers abroad, the Association are convinced that they are equally advocating our own essential interest. Whatever present seeming good may flow from a neglect of what is in itself right, they believe that such a course, according to the wise ordering of Providence, is in the end injurious. But they think that they can adduce proof of its impolicy in the case under consideration.

As the law at present stands, British literary works may be published in this country without any compensation to their authors. It is obvious that American works, supposing them to be of the same grade of merit, in order to compete with those from abroad, must be published on the same terms. The American author, therefore, can expect no compensation for his labours, unless these are better in themselves, or better fitted to our peculiar wants than the British. Thus, not only is our native literature without encouragement; it is really discouraged; and in the present state of the law, American authorship can never flourish, as it ought to do. We afford to the world the example of a nation repressing the struggles of its own aspiring literature; of a nation doing what best it may to nip in the bud those energies, which, if allowed to expand into full bloom, would do more than can be done by any other means to set off, in the eyes of the world and of posterity, its substantial greatness.

A national literature is essential to the greatest glory of a people. The writers of Greece and Rome, of Great Britain and France, have contributed scarcely less than their statesmen and warriors towards the high rank which these nations have held, and will always hold in history. Nor will the United States attain their true position, that which their past deeds, their immense progress, and their boundless present opportunities ought to secure for them, unless to the

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literary spirit shall be allowed the same unrepressed development of its powers which is granted to every other capacity of the country.

There is another consideration of importance connected with this subject. Our institutions are peculiar, and, in order to be legitimately carried out, should not only be well understood by all concerned, but should be supported by habits of thinking and feeling in the community, in full accordance with them. But how can this object be accomplished when the great mass of our literature is of foreign origin, when, of the books which tend to form the character and mould the opinions and mental habits of the reading classes, perhaps nine-tenths are the productions of authors born and educated under a different political system, with predilections for manners adapted to other forms of society, and altogether unsuitable guides for the young minds of this country. By allowing equal opportunities for the literary tendencies and genius of our population, considering the much larger proportion among us than in almost any other country of those who are so far educated as to come within the capacity of literary effort, there can scarcely be a doubt that we shall soon exhibit the same relative progress, in the various branches of authorship, as in all other departments of human action and industry. Our literature will start forward at a rate that will probably astonish the world as much as our progress in the arts, in wealth, and in all the physical comforts of life. It will have the advantage, moreover, of conformity with our institutions. It will intertwine itself with the popular feelings, convictions, and habits, imparting to them consistency, strength, and durability, growing with their growth, at once giving and receiving support, and, above all other means, adorning, ennobling, and strengthening the national character.

In view of these considerations, your memorialists would most respectfully urge upon your honourable bodies the passage of an international copyright law, offering to people of all nations the same privileges of authorship as are possessed by our own citizens, upon the sole condition of reciprocal liberality towards the writers of our country.

All which is respectfully submitted.

Signed on behalf of the American Medical Association assembled at Cincinnati, this ——day of May, 1850, by

President.

Secretary.

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H.

REPORT OF THE COMMITTEE ON PUBLICATION.

THE Committee on Publication respectfully Report:—

That immediately after the adjournment of the Association in May last, a contract was made for printing the Transactions, on very favourable terms, and which it was hoped would secure the early publication of the volume. The dilatoriness, however, of most of the committees, who had retained their reports for revision and completion, in furnishing them to this Committee, and the necessity of sending the proofs of several of the papers to their authors for revision, at almost the extreme points of the Union, baffled every effort for the early completion of the volume, and it was not until about the middle of December that it was ready for distribution. To prevent these causes of delay in future, the Committee recommend the adoption by the Association of a resolution appended to this report.

The number of copies printed of Vol. II. was, - -		1500
Of these there were delivered to members and to societies represented in the Association, - - -	595	
Sold by booksellers, - - - - - - -	22	
Presented to public libraries, editors of journals, &c.,	73	
Presented to Dr. F. C. Stewart by order of the Association, - - - - - - - - -	10	
Lost in transmission to members, - - -	11	
Remaining on hand, - - - - - -	789	—1500

The number of copies of Vol. I. on hand at last report, was,		891
Of these there have been delivered to members, most of them previously paid for, - - - - -	21	
Sold by booksellers, - - - - - -	63	
Delivered to Dr. F. C. Stewart by order of the Association, - - - - - - - - -	10	
Presented to public library, - - - - -	1	
Remaining on hand, - - - - - - -	796	—891

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Of the volume of proceedings of the conventions of 1846 and '47, there were on hand at last report five hundred copies. Of these, two hundred were distributed in Boston, leaving three hundred in the hands of the Committee.

With regard to the sum required to be assessed to cover the expenses of the year, as the small amount hitherto annually levied has been found sufficient, the Committee recommend that the same assessment be made for the present year. The Committee have not overlooked the fact that the balance in the treasury is less than in previous years, but they believe that a sum may be realized from the sale of the Transactions, if proper exertions are made by the members, which will, with economy and judicious management, be sufficient, with the proposed assessment, for the expenses of next year.

The Committee have to regret that the Transactions have not been more extensively circulated among the profession. But the usual method of extending the sale of books could not be resorted to, as the low price at which the volumes were furnished would not permit of the ordinary large deduction for booksellers' commission, and the risk of non-payment by agents. The volumes can be obtained by remitting the price to the publishers Messrs. Lea and Blanchard, Philadelphia, or may be ordered of them through any bookseller.

Especial attention is invited to the highly favourable terms upon which the Transactions are furnished to societies represented in the Association. Two volumes, containing upwards of 1350 pages, with six plates, two of which are coloured, are supplied for $\$2\ \frac{66}{100}$. This is barely the cost, and they could be afforded at that price only by saving booksellers' commission, and in consequence of the great amount of labour which is given by the committee of publication. It is to be hoped that the delegates will bring this subject before the several societies which they represent, and that measures will be adopted for the distribution of the Transactions through these societies.

Annexed is the Treasurer's report, showing a balance in the treasury of seventy-three dollars and 58½ cents.

In conclusion, the Committee recommend the adoption of the following resolutions:—

1st. *Resolved*, That the assessment for the present year shall be three dollars.

2d. *Resolved*, That those delegates who pay the assessment shall be entitled to one copy of the Transactions of the present year, and

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that the payment of two dollars in addition shall entitle them to two additional copies.

3d. *Resolved*, That permanent members shall be entitled to one copy of the Transactions of the present year on the payment of two dollars, and three copies on the payment of five dollars.

4th. *Resolved*, That societies which are represented at this meeting shall be entitled to copies for their members on the same terms that such copies are furnished to permanent members.

5th. *Resolved*, That the permanent members unless present at the meeting as delegates, shall not be subject to any assessment.

6th. *Resolved*, That any delegate who is in arrears for his annual assessment shall not be considered as a permanent member.

7th. *Resolved*, That the several committees be requested to bring to the meeting of the Association their reports correctly and legibly transcribed; and that they be required to hand them to the secretaries as soon as they have been read.

All which is respectfully submitted.

ISAAC HAYS.
ALFRED STILLÉ.
D. FRANCIS CONDIE.

PHILADELPHIA, *April* 30*th*, 1850.

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H.—1.

TREASURER'S REPORT.

The American Medical Association in Account with Isaac Hays, M. D., Treasurer.

Dr.			
To cash paid Collins & Co., for composition, presswork, paper, binding, &c., of Vol. II. Transactions, -	$1725 28		
" " Sinclair for drawing, paper, and printing two lithographic plates, - - - - - - - -	109 50		
			$1834 78
" " discount on notes, postages, express, &c., - - - - - - -	38 75½		
" " committee on medical education for postages, &c., - - - -	31 84		
" " committee on public hygiene, postages, &c., - - - - -	9 94		
			$80 53½
" " Collins & Co., for printing and binding receipt book for treasurer, - - - - - - - - - - - -			5 33
Balance on hand, April 26th, 1850, - - - - - - -			73 58½
			$1994 23

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Cr.

By balance on hand, April 26th, 1849, - - - - - -			$295 86
Received from delegates on account of assessment for 1849, and from permanent members for Transactions Vol. II., - - - -	$1398 33		
Received on account of assessment for 1847,	12 00		
Do. do. 1848,	71 00		
		$1481 33	
Do. from societies for Vol. II. Transactions,	$54 88		
Do. from permanent members for Vol. I.,	3 00		
Do. from Lea and Blanchard for copies of Transactions sold by them, - - -	$159 16		
		$217 04	
			$1994 23

E. E. ISAAC HAYS, *Treasurer.*

Philadelphia, *April 26th*, 1850.

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I.

REPORT OF THE COMMITTEE ON PUBLIC HYGIENE.

The Committee on Public Hygiene, in submitting their report, beg leave, in the first place, to express their regret that the delay in publishing the Transactions of the Association of the last year should have occasioned any impediment to the performance of the duty assigned them. The effect of the delay referred to was to deprive the committee of the opportunity of acquainting themselves, in due season, with the subjects which had engaged the attention of their predecessors. Being ignorant, for the most part, of the details of the report of the last committee on hygiene, there would have been, had the present committee entered on their labours anterior to the publication of that report, no security against the reiteration of matters already brought before the Association. The desire of avoiding a fault of this kind, and especially of discussing questions to which the attention of the Association has not heretofore been invited, will, it is hoped, be admitted as an acceptable plea, if not a satisfactory apology, for the want of variety, and limited extent of research in the present report.

In the second place, the committee would observe that the subject of hygiene is so fertile of matters demanding for their elucidation experimental research and scientific generalization, that nothing short of a plan of investigation, well digested and carefully pursued, can yield results remunerative of the labour expended in obtaining them. A committee consisting of members widely separated from one another by distance, and prevented from entering on their work at an early period after their appointment, can scarcely be expected, by any conventional action, to select from the wide domain of hygiene suitable fields of inquiry, and to proceed methodically and advantageously in exploring them. With these impressions, the chairman of the present committee deemed it proper, in communicating with his associates, in February last, to invite them to prepare monographs on such hygienic subjects as they might severally make choice of,

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avoiding those, however, which had been so fully and ably discussed by their predecessors. In thus adverting to the sources of their embarrassment in preparing their report, the committee deem it as not transcending their duty to suggest to the Association the propriety hereafter of assigning to the standing committee on hygiene special subjects of inquiry.

As a branch of medical science, hygiene is illimitable in the variety of its details. Its object is to discover and apply the means by which the vital powers may be so developed, regulated, and protected as to produce the greatest amount of ease, activity, and harmony of the organic and animal functions, its highest aim being to extend life without disorder to the period of its natural termination, or, in the language of Blumenbach, "to the ultimate line of physiology—to death without disease." Its scientific relations are to a great extent essentially etiological. To avoid disease it is necessary to know the disturbing causes of health. The influences which affect the vital properties are twofold. 1st. Those which, while rightly used are necessary to health, may become sources of disease. To this division belong what are denominated the *non-naturals*. 2d. Those which are never salutary, and the action of which is antagonistic to the normal vital forces. Among these are the qualities of the air which cause epidemic and some other forms of disease. From the modes in which these various morbific agents produce their effects on the human economy are deduced the principles of hygiene. As thus surveyed, it is obvious that hygiene comprehends the elements of etiology, and that, as a science, the former can never be in advance of the latter.

In regard to the general sources of disease, it is well known that some of them admit of correction by measures instituted by municipal authority, whilst others are beyond the control of legislative enactments. Of the former kind, are the emanations from filthy streets, sewers, marshes, human excretions in over-crowded habitations, and various common nuisances; and of the latter, the widespread influences which induce certain forms of epidemic disease. Against the assaults of these distempers, the utmost that can be done by Boards of Health is to point out their exciting causes and the means of avoiding them.

Whilst the civil, military, and naval relations of the laws or doctrines of health have long engaged the attention of governments, there is one aspect of the subject which has never been recognized as being of sufficient extent and importance to entitle it to the con-

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sideration of a separate department of study. We refer to *hygiene in relation to epidemics*. In researches strictly confined to this subject, the varieties of epidemic distempers, and their causes, characters, and laws, would be investigated and generalized; and the means, general and special, of avoiding their attacks, and preventing their recurrence, shown in a distinct and systematic order. A manual exhibiting the present state of our knowledge of these topics, so arranged in its plan that everything peculiar to particular epidemics should be brought together, and consequently made readily accessible, would be an invaluable boon to society.

As the theme of his contribution to the present report, the chairman of the committee has selected the sources of typhus fever and the means suited to their extinction. His design is to show that the disease originates from human excretions; and to investigate the kinds and quantities of these matters concerned in its production. The inquiry is divided into two parts; the first relating to the origin of typhus from the excretions of persons in health, and the second to its origin from the excretions of persons in disease.

I. The human body in health is continually undergoing the processes of composition and decomposition. The materials which enter the system for its formation, after serving that purpose for a brief period, yield their places to other matters of the same kind, and their elements entering into new combinations, are ejected as noxious to the organism. In health, except in the growing state, the supply of the nutritive and the waste of organic excretive matters are in equilibrium; and as the principles received into the body for its formation acquire the property of life, so those resulting from the metamorphosis of the tissues and eliminated as excretions, lose that property. The excretions, therefore, are dead matter; and hence being subject to the influence of chemical laws, their elements enter into new arrangements, forming various new compounds, among which there is reason to believe is *idio-miasma* or the typhus poison.

To enable the political hygienist to obtain a scientific and practical view of the extent to which the excretions of the human body may, under favourable conditions, become the source of a febrific miasm, it is necessary to estimate the quantity of effete matter expelled from the system in a given time.

Sanctorius, who for thirty years weighed daily his own body, and also his food and drink, and solid and liquid discharges, found when eight pounds of ingesta were taken, that his body returned

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every twenty-four hours to the same weight, and that he lost 3 pounds by urine and fæces, and 5 by transpiration. Keill makes the daily average of the fæces 5 ounces; the urine 38 ounces, and the perspiration 31 ounces, the ingesta being 75 ounces. Hartman found when the ingesta were 80 ounces, the fæces were 6 or 7 ounces, the urine 28, and perspiration 45 or 46 ounces. In Von Gorter's experiment, when the ingesta were 91 ounces, the fæces amounted to 8 ounces, the urine to 36, and the perspiration to 49 ounces. Sauvage ascertained that when the ingesta were 60 ounces, the fæces were 5 ounces, the urine 22, and the perspiration 33 ounces.* The researches of Robinson,† and Lining‡ furnish similar estimates. An exact accordance between the results obtained by different experimentalists can scarcely be expected, seeing that so many influences, such as age, temperament, condition of the atmosphere, and state of health, are continually operating to vary the quantities of the different excretions.

In estimating the amount of transpiratory matter, the above-mentioned inquirers make no distinction between the cutaneous and pulmonary exhalations. The first successful attempt to separate these excretions, and determine their relative and absolute quantities, was made by Lavoisier and Seguin. These gentlemen found from all their experiments that "the loss of weight caused by the insensible transpiration is 18 grains per minute, and that of these 18 grains 11 on the average belong to the cutaneous transpiration, and 7 to the pulmonary. Agreeably to this estimate, the quantity of matter lost through the lungs and skin in 24 hours is 54 ounces (troy). In the above estimates no notice is taken of the quantity of oxygen received into and discharged from the body by the lungs and skin.

From these statements it appears that the amount of cutaneous and pulmonary excretion exceeds the aggregate sum of the urine and fæces, being sometimes, according to Sanctorius, in the ratio of five to three.

In respect to the different excretions, it is observable that two of them, to wit, the urine and fæces, are occasionally or periodically discharged, under the direction of the will, and that the disposition usually made of them seldom admits of their becoming a source of disease. It is otherwise with the materials exhaled from the lungs and skin. These matters are constantly escaping from the organs

* See Dunglison's Physiology.

† See a Treatise of the Animal Economy, by Bryan Robinson, Dublin, 1732.

‡ See Transactions of the Royal Society of London, 1743.

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which secrete them; and while the more viscid portions of them adhere to the skin and clothing of the individual, the more volatile parts assume the form of vapour, and are widely dispersed in the open atmosphere; or remain, in circumstances of confinement, suspended in the air or attached to surrounding objects.

Now, it is well known that when the effete matters evolved from the lungs and skin are accumulated and long retained in a confined place, they become highly offensive and noxious to those who are exposed to them. We are not aware that any attempt has been made to illustrate this subject, by calculating the quantities of waste matters thrown off from the cutaneous and pulmonary surfaces of individuals, isolated or congregated, during lengthened periods of time. As such calculations may aid us in forming a right apprehension of the extent of the agency of human excretions in producing disease, in dense populations, we shall endeavour to supply them. There is reason to believe that inquiries pursued in this direction will exhibit more clearly and extensively than has hitherto been done the true grounds on which, in relation to the origin and diffusion of typhus fever, a system of hygiene should mainly rest.

The lowest quantity of transpiratory matter in 24 hours, among the estimates above cited, is that quoted from Keill, namely 31 oz.; and the highest that furnished by Lavoisier and Seguin, 54 oz. The average of them all is 45 oz. Carpenter says, "The maximum loss by exhalation, cutaneous and pulmonary, in 24 hours, is 5 lbs.; the minimum, 1¾ lbs." Now we shall probably not vary far from the truth, if we assume 40 oz. as the general average.

But before entering into the proposed calculations, it is essential, to a full analysis of the subject, that we inquire what are the proximate principles which constitute the cutaneous and pulmonary excretions? The elements of the typhus poison are undoubtedly present in the excretions in question, and hence an answer to this inquiry may lead to the disclosure of the principles which pollute the atmosphere of close and crowded habitations, and which are chiefly concerned in generating that poison.

Thenard, in his analysis of the matter of perspiration, found it to consist of a large proportion of water, some saline and acid bodies, oxide of iron, and a small amount of *animal matter*. According to the analysis of Berzelius, the proximate principles are water, muriates of potassa and soda, lactic acid, and lactate of soda, and a little *animal matter*. These results are probably near approximations to truth: they accord substantially with those afforded by the quali-

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tative analysis of Anselimo and Simon. It is to be noticed, also, that with the matters exhaled from the skin, are, according to Collard de Martigny, variable quantities of nitrogen and carbonic acid gas.

Of the proximate principles present in the pulmonary and cutaneous excretions, there is probably no one of them so directly concerned in generating *idio-miasma*, or the typhus poison, as the *animal matter;* and hence, it may be interesting to estimate the quantity of that material separately from the entire amount of matters discharged from the lungs and skin, in a given time. Happily this, we are enabled to do, by inferences deduced from the investigations of Mr. Ancell, of London.* Adopting the chemical views of Liebig, and pursuing his method of research, this gentleman has ingeniously attempted "to exhibit the various modes in which the equivalents of the component parts of the *ingesta* are eliminated from the body, and to ascertain the elementary constitution of the solid, fluid, and gaseous compounds into which they are distributed in the *egesta.*" The subject of Mr. Ancell's experiment was a healthy man, who, in twenty-four hours, took as *ingesta* 96 oz., and received, by estimate, into the system by the lungs, stomach, and skin, 32 oz. 23 dwt. 4 grs. of oxygen, making a total of matter received into the body of 129 oz. 3 dwt. 4 grs. The weight of the individual was the same at the end as at the beginning of the experiment. The egesta during the time was found to be fæces 5 oz. 10 dwt.; urine, 42 oz. and matters eliminated from the lungs and skin, consisting of water, carbonic acid, sweat, tears, animal matter, &c., 81 oz. 13 dwt. 4 grs., in all, making a quantity equal in weight to the matters introduced into the system.

The great difference in the amount of the excretions by the lungs and skin, in Mr. Ancell's estimate, and the quantities stated by former experimentalists arises from his bringing into his calculation the amount of oxygen taken into the system through the lungs, stomach, and skin, and expelled from the pulmonary and cutaneous surfaces in combination with carbon and hydrogen, forming carbonic acid and water. Subtract the oxygen in question, and the quantity of matters excreted by the lungs and skin is reduced to 48 oz. 14 dwt., a sum differing but little from the estimates given, as before noticed, by Hartman and Von Gorter.

On carefully analyzing the table in which the results of Mr. An-

* See London Lancet, Feb. 4th, 1843.

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cell's inquiries are exhibited, it is found that of the 81 oz. 13 dwt. 4 grs. of cutaneous and pulmonary excretions, 42 oz. 13 dwt. 10 grs. consist of water, 9 dwt. of dry materials, and 38 oz. 10 dwt. 18 grs. of gaseous matters. The 9 dwt. of dry materials are found in the secretions of the skin, and consist of *animal matter* 8 dwt., and salts 1 dwt., which added to the *animal matter* exhaled with the pulmonary vapour, give, exclusive of the salts, 11 dwt. 7 grs.: that is, the amount of *animal matter* emitted with the excrementitious discharges through the lungs and skin in twenty-four hours. This amount probably exceeds the usual quantity, and consequently, to avoid exaggeration, we shall assume 10 dwt. as the normal daily average.

Having thus ascertained, in a mode as inductive as the extent of our knowledge admits, that the quantity of pulmonary and cutaneous excretions is 40 oz. daily, and that, of this amount 10 dwt. consist of organic or animal matter, we are prepared to calculate the quantities of such excretions furnished in given times by one or any number of persons confined, or crowded in private dwellings, jails, and ships, or congregated in armies and cities; and to this task we shall now apply ourselves.

1st. The excretions of a single individual in health are seldom productive of typhus fever. The disease, however, may arise from that source, especially when there happens an extraordinary combination of circumstances favourable to the generation of *idio-miasma;* as was the case in the instance related by Dr. Harty, of a woman confined by her husband for weeks in a small, dark closet, without light or air, and without a change of clothes. The two gentlemen who liberated her were overpowered while engaged in doing so by the effluvia of the place. At the end of a week both sickened with fever; one died and the other recovered with difficulty.* In examining these interesting facts, let us suppose that the weeks of the woman's imprisonment were equal to thirty-five days, though the period may have been much longer. Now the entire quantity of matters thrown off by the lungs and skin of the woman, at the rate of 40 oz. daily, in that time, is 116 lbs. 8 oz., and of the animal matter, at the rate of 10 dwt. daily, is 1 lb. 5 oz. 10 dwt. Here, then, to say nothing of the vitiation of the air by carbonic acid gas, a febrific effluvium was generated, doubtless, from the effete and excreted animal matter.

* See an Exposition of the Nature, Treatment, and Prevention of Continued Fever, by H. M'Cormac, M. D., London, 1835.

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If it be questioned, however, whether the quantity of animal matter emitted from the lungs and skin, in the time mentioned, was not sufficient to produce so concentrated and active a poison, as manifestly existed in the place, it may be supposed that the emanations from the fæces and urine which, probably, were not regularly, if at all removed from the apartment, contributed to its production. It is remarkable that the woman herself continued in health, a circumstance attributable to her system having been gradually inured to the impression of the miasm from the time of its incipient production.

2d. Among the more common sources of typhus fever are the effete matters of the human body, accumulated and long retained in private dwellings. The facility and promptness with which such accumulations take place in the close and crowded hovels of the poor may be readily explained by calculating the amount of materials excreted from the lungs and skin of a definite number of individuals living in the same habitation. Let us suppose a family, one, of which there are hundreds of examples, consisting of ten adult persons, dwelling in a small, ill-ventilated house, and negligent of personal and domestic cleanliness; and, further, that the time severally passed within doors by the ten individuals, some of whom are constantly at home, while others are temporarily absent, amount in the aggregate to twelve hours out of every twenty-four. The mass of effete matters thrown out by the lungs and skin, by such a family within their dwelling, in one month, is 500 lbs., in six months, 3033 lbs. 4 oz., and in one year 6083 lbs. 4 oz.* Though by far the greater part of these excretions consist of carbonic acid, water and salts, yet the quantity of ejected animal matter is not inconsiderable. It amounts in one month to 6 lb. 3 oz.; in six months to 37 lb. 11 oz.; and in one year to 76 lbs. 0 oz. 10 dwt. In such circumstances it is, and especially in seasons in which the prevalence of typhus is favoured by an epidemic influence, that the disease often spontaneously originates in the squalid homes of the poor.

If we extend this mode of investigation to a number of families, each consisting of ten members, residing in contiguous tenements, we shall obtain results which may forcibly impress the mind of the public hygienist. Instead of a hypothetical example, let us select one which is reported as actually existing. "In one of the *cul-de-*

* In these and the subsequent calculations a month is reckoned as 30 days; six months as 182 days; and one year as 365 days.

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sacs in the town of Leeds, there are thirty-four houses (described as impure and ill-ventilated), and in ordinary times there dwell in these houses 340 persons, or ten to every house; but as these houses are many of them receiving-houses for itinerant labourers, during the period of haytime and harvests and the fairs, at least twice that number are then here congregated." It is probable that of the 340 persons who ordinarily occupy the thirty-four houses some are children; yet, though this may be true, the occasional itinerant lodgers doubtless make the number residing in each house throughout the year equivalent to ten adult persons. Now, if the cutaneous and pulmonary excretions of one adult be 40 oz. daily, then the 340 adults discharge by the lungs and skin, within their dwellings, in the half of one day or twelve hours (assuming this to be the average of the time passed severally by the whole number in their houses), 566 lbs. 8 oz., and in the same proportions, in one month 17,000 lbs.; in six months, 103,133 lbs. 4 oz.; and in one year, 206,833 lbs. 4 oz. It is said that there were removed from the place in which the houses in question are situated, during the days of the cholera, 75 cart loads of manure—a quantity, allowing each cart load to weigh 1200 lbs., not equal to half the amount of the materials eliminated from the lungs and skin of the 340 persons, within the thirty-four houses, in one year. If we now calculate the amount of animal matter cast out from the 340 persons, it will be found, at the daily rate of 10 dwt. for each person, in the half of one day, to be 7 lbs. 1 oz., and, in corresponding proportions for each day, in one month, 212 lbs. 6 oz.; in six months, 1289 lbs. 2 oz.; and in one year 2585 lbs. 5 oz.: this last amount being more than two cart loads, each of the weight above mentioned.

We would here, for a moment, arrest our inquiry, in order to remark, what, indeed, is so well known that it needs scarcely to be stated, that the entire amount of effete materials evolved from the lungs and skin of persons living together, is not retained within their dwellings. In every human habitation there are openings or passages which admit of more or less ventilation, or, in other words, through which there is constantly a more or less free interchange of the air within with the air without. Now of the various proximate principles present in the cutaneous and pulmonary excretions, viz., carbonic acid gas, water, salts, and animal matter, the first, agreeably to the law of the diffusion of gases, rapidly escapes through the apertures mentioned, and is widely dispersed in the general atmosphere; and by virtue of the same law, the water, assuming the form

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of vapour, and holding the salts in solution, and suspending a fraction of the organic matter, also readily finds its way into the open air. But with the residue of the animal matter it is otherwise. The organized atoms, exhaled from the human body, have not, according to Professor Graham, "the diffusive force inherent in gases and vapours;" and consequently are slow in dispersing themselves. In confined habitations, where there is no perflation, they long remain floating in the air, or become attached to the persons, clothing, bedding, and furniture of the inmates. It is owing, therefore, to the difference between the diffusive property of the molecules of *animal matter*, and that of the *carbonic acid gas*, exhaled from the skin and lungs, that the former is, in ordinary, much more liable, though vastly less in quantity than the latter, to impart to the air of human dwellings a morbific quality.

3. Pursuing the same method of investigation, we may next estimate the amount of material excreted from the lungs and skin of persons confined in jails. The history of prisons abounds with examples of the origin of typhus from human filth accumulated in them. "The most pernicious infection, *next the plague*," says Lord Bacon, "is the smell of the jail, where prisoners have been long, and close, and nastily kept." There are few things which more strikingly illustrate the later advances in civilization than the improvements in the hygienic condition and discipline of prisons. Indeed, so great have been the reforms in the sanitary police of these institutions, since the time of Howard, that jail fever is now comparatively of rare occurrence. The disease, however, is still occasionally induced from excessive over-crowding. Take, for example, the prison at Rheims, which, it is said, is calculated to receive one hundred prisoners, that is, to accommodate this number without endangering their health. In general, it contains from 130 to 150. But, as M. Landouzy informs us, in 1839, the number rose to 180 and 190; and that fever broke out in the most crowded apartments.* It is evident, therefore, that if the prison is fitted to receive but 100 persons, any addition to this number must render its inmates liable to generate the cause of fever. According to the daily average of 40 oz. from one individual, the amount of cutaneous and pulmonary excretions from 100 persons in one month is 10,000 lbs., in six months, 60,666 lbs. 8 oz., and in one year 121,666 lbs. 8 oz. The quantity of animal matter exhaled in one month is 125 lbs., in six months 750

* See Archives Générales de Médecine, Janvier, 1842.

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lbs. 4 oz., and in one year 1520 lbs. 10 oz. Now it appears that in the prison at Rheims ample provision is made to prevent the occurrence of disease from the transpiratory matters of 100 prisoners. But how different was it when the number of prisoners was nearly doubled; and when, of course, the quantity of effete matters thrown out from the lungs and skin was proportionally augmented? Then it was that the mass of excretions, over and above the amount which the space and means of ventilation are sufficient to render innocuous, became the source of a miasmatic poison; and then it was that typhus broke out.

4. In like manner may be determined the quantity of pulmonary and cutaneous excretions of passengers in ships, sailing on long voyages. No human habitation is so liable to suffer from disease, by overcrowding, as a vessel that navigates the ocean. The annals of jail fever afford no examples of the mortality of that disease more appalling than those of the ravages of ship fever within the last few years. Of the emigrants, near 100,000, who left the British Isles for Canada, in 1847, over 5000 perished on the passage; and the deaths in the passenger ships bound to the United States, in the same year, were scarcely less numerous. From some ships upwards of 100 were buried at sea. Nor can this immense mortality be surprising when we contemplate the hygienic condition of the ships at the time of their arrival. A writer, in a Boston paper, who accompanied the port physician of Boston to a sickly emigrant ship, in describing the scene that the steerage of the ship presented, says: "As we descended by the light of a lantern between decks, and inhaled the fever-generating air, the concentration of 150 foul and infectious breaths, and beheld the ghastly victims of want and disease, and the filth in which they were literally imbedded, we could think of nothing but the black hole, or the middle passage." The condition of this ship affords a fair specimen of that of almost every vessel in which fever extensively appeared, while crossing the Atlantic, in 1847. The causes to which the occurrence of typhus in passenger ships are chiefly due, are not always under human control. The time occupied by ships in crossing the ocean varies greatly in length; and the health and good condition of the passengers mainly depend upon the opportunities they enjoy for spending a portion of each day in the open air, and on the cleanliness of their person, and the purity and aeration of the steerage. Whilst fine weather allows them to visit the deck, tempest and other atmospheric inclemencies compel them to keep below.

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Now the quantity of matters eliminated from the lungs and skin in the steerage varies of course with the number of passengers, the length of the voyage, and the number of hours passed in the steerage. If 300 adult passengers spend twelve hours daily between decks, the matter there emitted from the lungs and skin during a voyage of thirty days will amount to 15,000 lbs.; and in the course of a voyage extended to forty-five days, to 22,500 lbs. The quantity of animal matter, calculated, as in former examples, will amount in thirty days to 187 lbs. 6 oz., and in forty-five days to 281 lbs. 3 oz. The construction and interior arrangements of the vessels, usually employed in transporting emigrants, are peculiarly unfavourable to the rapid diffusion of these large amounts of excrementitious transpirations. The main and direct openings into the steerage are generally too contracted to admit of free ventilation; and are occasionally from necessity closed; offensive accumulations consequently take place; the retained carbonic acid renders the air unfit for respiration, and the atoms of animal matter, having but little or no diffusive force, transform themselves into a pestiferous miasm.

Now, is it conceivable, in the true spirit of philosophy, that when there is such an amount of human exhalations, more or less of which is retained, in the circumstances mentioned, it is necessary to resort to the hypothesis of a specific contagion to account for the ravages of fever among those who lodge in the midst of them? When typhus appears in a foul and crowded emigrant or transport ship, the inference naturally deducible from a common sense view of the case is, that the disease originates from a poison generated from the detrita of the passengers, and especially from those emitted from the lungs and skin, to which, in many instances, are added the emanations from the fecal and urinary discharges and the matters ejected from the stomach in cases of sea sickness. The theory that typhus is produced exclusively by a specific contagion, analogous to that of small-pox, introduced on board at the port of departure is invalidated, if not overthrown, by the fact that the disease never prevails among the passengers of a ship, unless the condition arising from filth and deficient ventilation, already described, exists. If typhus be produced by a specific contagion, the disease would prevail in clean as well as in foul ships, a circumstance which never happens; and, besides, if the fever depends upon contagion, it would most probably show itself among the passengers within a few days after their embarkation, whereas the truth is, typhus rarely occurs in a ship until she has been several weeks at sea, and the steerage has become polluted with vitiated human effluvia.

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5. In further attempting to illustrate the extent to which human exhalations sometimes become the source of an active fever poison, let us estimate the quantity of the pulmonary and cutaneous excretions of a definite multitude of persons, congregated in circumstances different from those above mentioned; for example, a large body of troops.

The condition of a common soldier, in respect to personal cleanliness, is extremely different in different circumstances. In times of peace, and while under a system of regular and rigid inspection of his person, apparel and quarters, there is usually nothing about him from which the typhus poison can originate. But it is otherwise when in active service in the field; he perspires freely, neglects ablution, and is long without a change of clothing. In such circumstances, whether in bivouac, or on the march, his garments become excessively filthy, and his person besmeared with the excrements of the skin. In such a condition, according to Foderé, were the French troops on their return from Italy in 1799; their clothes were in rags, their shirts glued to their bodies for several months, and their skin covered with filth. Such impurities long attached to a soldier, render him an object scarcely less dangerous to approach in a friendly interview than to meet in a hostile rencontre. "The same matter," says an American writer, "which renders shirts, drawers and stockings *disagreeable* to the wearer after two or three days will render them pestilential after five or six weeks close and incessant application to the skin."*

In order to form some idea of the magnitude of this source of disease in armies, let us compute the quantity of waste material discharged from the lungs and skin by a given number of troops, say 20,000, in definite periods of time. Basing the estimate on the daily average of 40 oz. from one individual, it appears that a corps of that number, eliminate in one day, 66,666 lbs. 8 oz; in one month, 2,000,000 lbs.; in six months, 12,133,333 lbs. 4 oz.; and in one year, 24,333,333 lbs. 4 oz. But, as by far the greater part of this amount of effete matter consists of water, carbonic acid and salts, which probably take no part in the generation of the typhus miasm, it is necessary, to a just view of the subject, to estimate the quantity of animal matter evolved from the cutaneous and pulmonary organs. If 10 dwt. be the daily quantity from one individual, then 20,000 men emit in one day 833 lbs. 4 oz.; in one month, 25,000

* New York Med. Repository, vol. v. p. 70.

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lbs.; in six months, 151,666 lbs. 8 oz.; and in one year, 304, 166 lbs. 8 oz.

It will be observed that the above estimates comprise the exhalations from both the lungs and skin. Now, it is obvious that so long as troops are serving in a campaign, or moving in the open air, the pulmonary excretions are wholly innocuous, being dispersed in the atmosphere, whilst those of the skin, or, rather a part of them attaching themselves to the body and clothing, furnish the elements from which are generated the *materies morbi* of typhus. It is only when troops are in barracks or in close tents that the pulmonary exhalations unite with the cutaneous, in producing a fever poison.

The quantity of sordid material adhering to a soldier in the circumstances now described, it is not easy, nor is it important, to determine. The rank odor, proceeding from his person, manifests, what in truth is apparent to the eye, that the quantity is not inconsiderable; and, at the same time, evinces that the substance in question has undergone a chemical transformation.* It is also to be noticed, that, though freely exposed to the air, the mass of filth on his person and raiment suffers no diminution by evaporation, the loss, sustained in this way, being constantly replaced, with additions, by the incessant discharges from the skin. A soldier in this condition may not inaptly be said to be clothed in a suit of fomites; and an army composed of such men, and moving in a body, may be likened to a morass, the emanations from which produce fever in those who come within the circle of their influence. It was in this manner, we are told, that the ragged and filthy French troops, above alluded to, disseminated the germs of typhus fever in the towns and villages that lay along their route from Italy; and it is remarkable that it was not until after halting at places beyond the reach of pursuit, and being concentrated in confined situations, they themselves succumbed to the influence of the noxious effluvia emanating from their own persons. There is reason to believe that a very large proportion of the ravages of fever, which have occurred at different epidemic

* Winterbottom, in discoursing on the odor emitted from the human body, cites the following curious remarks from a prize essay by Ritter. "The want of ablution occasions that insupportable and specific smell which the soldier, when in mass, spreads around him, and which differs in different nations. The smell of Hungarians, and Croats, differs from that of German soldiers; and an English regiment smells extremely different from a Spanish, Bohemian or Dutch one. The specific smell of different classes of men may be attributed to their mode of life and employment, as well as to their domestic and national customs."—*Thoughts on Contagion. Monthly Journal of Foreign Medicine*, vol. iii. Philadelphia, 1829, from the *Edinburgh Medical and Surgical Journal.*

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periods, in the armies of Europe, was caused by *idio-miasma*, generated, under a favoring epidemic influence, from the personal filth of soldiers, and by the union of this poison with common malaria, forming the compound poison *idio-koino-miasma*. Dr. Rush, in speaking of the fever produced by "*excreted matters*," says that "it has been but little known in the United States since the Revolutionary war, at which time it prevailed with great mortality in the hospitals and camps of the American army."*

6. If any interest have been awakened by the results afforded by the mode here adopted of studying the etiology of typhus fever, it will not, perhaps, be lessened by proceeding to estimate the quantity of matters transpired from the skin and lungs of a city population, in various periods of time.

The inhabitants of a densely populated town may be regarded as a single family, living in contiguous or narrowly separated apartments, any number or the whole of which may as certainly be rendered infectious by over-crowding as the cells of a prison. In no mode perhaps can the danger from this source of disease be so distinctly impressed on the mind as by estimating the quantity of waste matters eliminated from the bodies of the people of a city in given times. If we assume as a numeral basis a population equal to 200,000 adults, it will be found, if calculated as in former examples, that the entire pulmonary and cutaneous egesta amount in one month to 20,000,000 lbs. in six months to 121,333,333 lbs. 4 oz; and in one year to 243,333,333 lbs. 4 oz.; and that the exhaled animal matter alone amounts in the first of these periods to 250,000 lbs., in the second to 1,516,666 lbs. 8oz., and in the third to 3,041,666 lbs. 8oz.

The health of a city depends, in no small degree, upon the distribution of the inhabitants over an area of sufficient extent to admit of the free ventilation of every dwelling. When such a distribution obtains, and attention is given to personal and domestic cleanliness, a population of 200,000, or any greater number, will be as secure against the invasion of typhus as are the inmates of a commodious, cleanly and well-aired private dwelling. But populate a town as densely as are the alleys and courts of many cities, and the consequence will be that the whole population will feel the influence of an *idio-miasmatic* atmosphere, and disease be co-extensively produced. Though such instances are extremely rare, yet history furnishes us with a notable example. We allude to the plague at Athens, which,

* New York Med. Repository, vol. vi. p. 155.

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occurred in the time of Pericles, and the terrors of which are so thrillingly sketched by Thucydides. We are told that the people of Attica, during their warfare with the Peloponnesians and their confederates, took refuge within the walls of Athens; and that so great was the multitude assembled in the city, that every spot was excessively crowded. The ordinary population of Athens, at the time in question, cannot be satisfactorily determined. Xenophon reports that there were 10,000 houses; and a modern writer, founding his calculation on this statement, and assuming 12 inmates to each house, makes the number 120,000. Dr. E. H. Smith, in his admirable essay on the Athenian pestilence, states that the ordinary number of citizens was about 50,000, and that it was increased by the new comers from the country to more than 400,000. The plague broke out in the spring of 430, A. C. one year after the commencement of the removal from the country, and extended into the following summer. In its greater severity, it prevailed probably at least six months, and its ravages were renewed in several subsequent years.

With these data, we may compute the quantity of effete matter eliminated by the lungs and skin of the people in the space of six months. Supposing the usual population, taking the average of the above hypothetical estimates, to have been 85,000, and these to be equivalent to 50,000 adults, then, if each furnished daily 40 oz., the total quantity in six months amounts to 30,333,333 lb. 4 oz., of which the portion of animal matter, at the rate 10 dwt. daily, amounts to 379,166 lb. 8 oz. If we now assume that, to the stated population, there were added 350,000 fugitives from the country, making a total of 435,000, and that this number, including all ages, was equal to 300,000 adults, it will be found that the material excreted by transpiration was in six months 182,600,000, and that of this 2,275,000 lb. consisted of animal matter. And, lastly, if we subtract the quantity of exhaled excretions furnished by the ordinary population of Athens from that evolved by the augmented multitude, there will remain of the total exhalations 151,666,666, lb. 8 oz.; and of the animal matter 1,895,833 lb. 4 oz. These latter numbers, then, express the amount of exhaled matter, over and above the quantity emanating from the stated population of the city, in the course of the six months in which the plague raged with the greatest violence; and though there is good reason to believe that other causes, such as the miasm from accumulated fæces, and masses of decaying organic substances strewed on the earth, exerted a powerful agency, under the influence

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of a peculiar epidemic meteoration, in causing the distemper, yet there can be no hesitation in ascribing to the *idio-miasma*, produced from the immense volume of molecules of exhaled animal matter, suspended in the air, the effect of exasperating its malignity, and swelling its mortality. Thucydides says that "the general removal from the country into the city was a heavy grievance, more particularly to those who had been necessitated to come hither; for as they had no houses, but dwelt all the summer season in booths, where there was scarce room to breathe, the pestilence destroyed with the utmost disorder, so that they lay together in heaps, the dying upon the dead, and the dead upon the dying." Plutarch tells us that the Athenians raved against Pericles for causing the plague, and attempted his ruin, "being persuaded by his enemies that the sickness was occasioned by the multitude of out-dwellers flocking into the city, and huddled together in the height of summer, in small huts and close cabins, where they were forced to live a lazy inactive life, instead of breathing the pure and open air to which they had been accustomed. Of all this (they affirmed) he was the cause, who at the commencement of the war admitted within the walls such crowds of people from the country, and yet found no employment for them; but let them continue pent up like cattle to infect and destroy each other without affording them the least relief or refreshment." That such an epidemic should have sprung mainly, if not exclusively, from human exhalations cannot be doubtful or surprising, especially when the amount of these are rightly estimated, and their proclivity to generate a pestilential miasma is recognized. The sentiments of De Pauw, in relation to the Athenian plague, fully accord with the view here taken of the etiology of the disease. "To seek," he says "in Ethiopia the origin of the disorder, so evidently arising from a multitude of men heaped and pressed together, would be absurd, especially as its influence did not extend beyond the walls of Athens, and was totally unknown in every other part of Greece. Similar effects would be now produced in any town where the particles of the atmosphere are entirely changed by being charged with different noxious effluvia, as frequently happens in fleets or among armies encamped in too close order."

II. Having in the foregoing inquiries confined our attention to the excrementitious exhalations of persons in health, as the primary and chief source of the typhus poison, we now propose to examine the relations of that poison to the excretions of persons in disease, and especially of those affected with typhus.

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Many distinguished pathologists regard typhus as springing exclusively from a specific *contagion*. That the disorder is communicable, under certain circumstances, there is no question. The communication, however, is effected by the transmission of a principle which, in its nature and mode of origin, has no analogy with the poisons of small-pox, measles, and scarlet fever. The poisons of these diseases are the products of specific morbid secretions, or vital processes which are respectively *sui generis*, whilst the poison of typhus consists of the ordinary excreted matters chemically altered in their properties. As, then, the excrementitious emanations from a typhus patient may be transmitted to a person in health, and in him produce typhus, the disease of course may be said to be communicable. But as the poisonous material communicated is totally unlike a specific contagious virus, the disease in question cannot with propriety be considered *contagious*. The disorder is strictly the effect of a chemical aeriform poison, and as this originates from human excretions, the poison is correctly denominated *idio-miasma*.

The excretions of patients affected with any form of disease may produce typhus fever; only, however, when they are accumulated and long pent up in confined apartments, or when they are highly vitiated or putrescent, at the moment of their elimination from the body, which is generally their condition in the more malignant forms of typhus. But even when in this form they are rarely the cause of fever, if the persons, clothing, and bedding of patients be preserved clean, and pure air be freely admitted to their apartments.

From inquiries, instituted to determine from which of the special excretions of persons in disease *idio-miasma* mostly originates, it has been found that the cutaneous and pulmonary transpirations generally furnish the elements of the poison. It is true, these excretions are variable in quantity, especially in febrile disorders, being sometimes greatly diminished, and at other times excessive. At no time, however, are they entirely suppressed. Febrile heat, though usually attended with a decrease of exhalation, promotes evaporation, and hence in part the dryness of the skin. When not apparent to the eye or touch, the cutaneous emanations are often manifest to the sense of smell. Edwards, in his work on the Influence of Physical Agents on Life, expresses the opinion that the perspiration can never be entirely suppressed; and Dr. Southwood Smith, in speaking of the odour which belongs to a typhus fever patient, that "it is so characteristic, that a person familiar with the disease might in many cases be able to pronounce, merely from the odour of the effluvia that arises from the body, whether the disease were fever."

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With respect to the urine and fæces of the sick, they are, as we have said of those of persons in health, discharged occasionally, and are commonly removed from the apartment immediately or shortly after they are voided; and hence they are in general comparatively innocuous. It is only, or, for the most part, when these evacuations occur involuntarily, or are allowed to remain in the room of the sick that they are sources of a fever poison.

It is then to the excrementitious matters thrown off from the lungs and skin of diseased persons that the poison of typhus is mostly traceable. Such matters, transformed into a febrific principle and diffused in the air, constitute what Dr. Miller denominates *atmosphera idio-miasmatica.* Every patient affected with typhus in its graver form, in a close apartment, is surrounded by such an atmosphere, and it is by the attendants and others coming within the circle of its influence that the disease is propagated. When many typhus patients are assembled together in a close and narrow space, the miasmatic atmospheres of the sick gradually widen their circles of activity, until meeting and blending together the whole place becomes pestiferous. The liability of nurses and physicians of contracting fever in an infirmary, is generally proportionate to the number of typhus cases admitted into the wards. Dr. Christison says that, "it has been invariably remarked that the admission of a few cases into a general ward is attended with little or no risk of the fever passing to the other inmates of their wards. But so soon as the cases exceed considerably a third of the whole, then the fever begins to show itself among the domestic attendants, and to appear among the other patients." Similar observations have been made in the New York Hospital. It is remarked by an English writer, in reference to the admission of fever patients into general hospitals, that "it has been found safer and better to have them scattered as single cases through different wards instead of congregating them together into one;" and he adds that "this plan has been adopted in more than one of the London hospitals; and we believe that there has been, on the whole, no cause to regret having followed it."*

The fact is here deserving of special notice, that the matters eliminated from the lungs and skin of a *solitary typhus patient* in an ill-aired room, acquire a febrific property in a period of time much short of that in which a fever poison is generated from the combined

* Med.-Chirurg. Review, No. 105, p. 229.

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excretions of several healthy individuals shut up in a close apartment. This is so for the reason that the exhalations in typhus are highly vitiated from the time the disease is sufficiently developed to be recognized, and, having a strong putrescent tendency as the disease advances in its downward course, are rapidly transformed into idio-miasma.

In regard to the quantity of excrementitious matters discharged from the body during the course of an ordinary attack of fever, we have no definite knowledge. Among the changes which take place in a typhus patient, there are few more striking than the emaciation. The weight of the body is sometimes greatly reduced. A part of the waste matters escape by the bladder and rectum; but the loss which the body sustains by discharges through these emunctories is, in a measure, replaced by the ingesta, and consequently a large portion of the transformed blood and tissues passes off by the lungs and skin.

It would be interesting to inquire what the average quantity is of the pulmonary and cutaneous excretions in cases of fever of a definite duration; and what proportion these bear to the alvine and urinary egesta. We have seen that an adult in health loses daily by the lungs and skin on an average 40 oz. Whether more or less than this quantity is lost by a patient ill with fever, we have not the means of determining. The amount probably does not, if at all, fall much below the quantity lost in health. In some cases, and especially in some conditions of fevers, there are copious sweats, which compensating for deficiency of perspiration in other cases and other conditions of the disease, bring up the total amount to the average quantity in health. In some febrile epidemics, the transpirations probably exceed the normal amount.

The excretions of a starving man exceed the half of those of one who is duly nourished. Currie mentions the case of an individual who was unable to swallow, and whose body lost 100 lbs. in weight during a month."* This is exactly the average amount transpired from the lungs and skin of a healthy man in 30 days, and it is probable that, in the case here referred to, the greater part of the matters eliminated escaped through these organs. Now the equilibrium between the waste and supply of the system, in an attack of fever, is broken up, the former exceeding the latter, and consequently emaciation follows. The difference of weight of the body at the

* Liebig's Animal Chemistry, p. 25.

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accession and termination of the disease in a case of ordinary duration, cannot be less than 30 or 40 lbs. Though a diarrhœa and the alvine discharges produced by cathartic medicines may alter the relative normal proportions of the different excretions, yet there is reason to believe that a considerable if not the greater part of the transformed tissues, together with much of the drink and food introduced into the system during the disease, is eliminated from the lungs and skin. If the daily transpirations of a typhus fever patient be equal to 36 oz., that is 4 oz. less than the quantity in health, the amount in 20 days will be 60 lb., a quantity which, if there be any impediment to its diffusion, cannot fail to contaminate the air of a small apartment. It is from such transpirations retained in the narrow and close hovels of the poor that typhus is propagated, in seasons favourable to the epidemic prevalence of the disease.

But though private typhus patients may communicate the disease by their exhalations to their attendants and visitors, and thus spread the malady from house to house in towns and country districts, it is chiefly in hospitals that the cutaneous and pulmonary emanations display their power of reproducing the disease. Ten typhus patients, in a ward, discharge by the lungs and skin 600 lbs. of effete matter in 20 days. Now supposing this to be the average time which patients remain in a ward, and that the number mentioned be preserved by the admission of new patients to fill the places of those discharged, for 100 days, the quantity of exhalations in that period will amount to 3000 lbs. With such facts before us, and considering the noxious quality of the exhalations in question, it is plain that nothing short of ventilation, the most efficient, and of cleanliness, the most thorough, can prevent the occurrence of the disease among the nurses and other hospital attendants.

In respect to the principles which compose the exhaled matters from typhus patients, there is reason to believe that, however they may differ in their quantities, they are the same in kind as those from persons in health, namely water, carbonic acid, salts, and animal matter. But whether the proportions of these are relatively the same is problematical. As to the animal matter, we have no means of estimating its quantity. The fœtor of the breath, and the offensive odour of the sweats, in the graver forms of the disease, indicate that the amount does not fall short, if it do not exceed the quantity discharged in health. In some forms of abnormal excretions

* See Christison on Continued Fever, in Tweedie's Library of Medicine, Phil. edit. pp. 202, 203.

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there is a large increase of organic material; and according to Stark albumen exists in the sweat in putrid and some other diseases on the approach of death.* Admitting this to be true in respect to the morbid perspiration and pulmonary excretion in typhus, the cause of the ready diffusion of the disease may be easily explained.

But in tracing the typhus poison to the matters emitted from the lungs and skin, it must not be forgotten that, though the fæces and urine of typhus patients supply nothing essential to its production, they are probably not unfrequently its source, especially when they are discharged involuntarily, and consequently pollute the bedding and clothing of the sick.

In conclusion: from these etiological, let us turn to the hygienic views of our subject.

It is a law of the human economy, which impressively illustrates the wisdom and benevolence of the Creator in respect to the social and domestic relations of men, that the effete materials which are so abundantly and continuously exhaled from their lungs and skin, in health, are never hurtful or offensive to them so long as they live in a space sufficiently ample to allow them to breath a free and pure atmosphere, and their bodies are preserved clean. It is in reference, therefore, to the transpirations of the body that ventilation and personal cleanliness are so clearly demanded by the cardinal laws of hygiene; and as these laws have their foundation in the normal physical relations of man to the external world, the violation of them by crowding individuals into spaces or situations in which the air becomes surcharged with carbonic acid and the other matters of exhalation, is no less productive of disease than is the infraction of any other natural laws on the undisturbed operations of which health depends. It is by the failure to observe these salutary principles that densely populated localities engender the evils of which we have treated.

Though the mode in which we have endeavoured to discuss this subject is more especially interesting to the practical hygienist, yet it brings into view questions relating to organic nature which challenge the notice of the chemical philosopher. We have seen that the quantity of pulmonary and cutaneous excretions from a population of 200,000 adult persons, in one month, is 20,000,000 lbs.

This amount, of course, increases proportionately as greater numbers are made the basis of the calculation; such, for example, as the population of the city of New York, Paris, or London. Now,

* Simon's Animal Chemistry, vol. ii. p. 109.

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the principles which constitute the effete matters of transpiration of a city population are derived, for the most part, as they are elsewhere, excepting the water, from animal and vegetable substances, the products of rural districts. These organic substances gathered by human industry, and transported to cities on rivers, railroads, and other highways, and distributed to the inhabitants, serve the purpose of human sustenance. Having answered this end, they are evolved as effete materials from the body, and mostly returned to the country; the gaseous portion finding its way thither by virtue of its diffusive property, and the remaining volatile parts on the wings of the wind. Now, the interests of agriculture in common with those of private and public hygiene, demand that to such a return there should be no hindrance. Allowed to take their natural course, their elements enter into new arrangements, and the resulting compounds, descending to the earth with the dews and rain, and serving as the pabulum of plants, reappear in vegetable forms, fitted as nutriments for man and brute. If this order of nature, so beneficiently contrived, and so happily elucidated by Dumas, Boussingault, Liebig, and Fownes, be disturbed, or rather, if but a comparatively small part of the organic matter evolved from the lungs and skin be retained and accumulated in the stagnant air of human habitations, or become attached to garments, bedding, furniture, &c., it may be metamorphosed into an agent destructive to life; and, consequently, so much be withdrawn of the materials designed for the nutriment and growth of plants. In thus adverting to the mutual physical dependencies existing between man and the lowest orders of organic nature, we arrive at the conviction that it rests with the people or rulers of a city to decide the question, whether the matters transpired from their bodies shall be dispersed over agricultural districts, and, in their circle of mutations, be again measurably returned to them as wholesome food, or be retained in their dwellings and transformed into a principle productive of disease.

In perhaps no other mode of investigation than that pursued in the preceding inquiry are we enabled to form a just estimate of the value of personal and domestic cleanliness, and so fully to perceive the importance of making ample provisions in plotting the streets and courts of cities, and in constructing dwellings, workshops, factories, and public edifices, as prisons and almshouses, for securing the advantages of ventilation. If it be ascertained what extent of space, and what degree of perflation, or change of air in a habitation are requisite for the health of a single individual, it will not be

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difficult to calculate what extent of area, and what arrangements for supplying fresh air are necessary to preserve any number of persons or families in a neighbourhood or city from suffering from their own exhalations. It is said by the register general, of England, that "the space allotted to the sleeping rooms of many public institutions in towns is too small." And he remarks that, "it should in no case be less than eight feet cube (= 512 cubic feet) to each person, with proper apertures for the removal of the breath. If the air were removed twice as fast, a room of 500 cubic feet would afford the same advantages with regard to health as a room of 1000 feet; but it is a difficult matter to remove air from a room with double velocity—more difficult and expensive than to make the rooms at least on hand of sufficient extent in the first instance. The mortality in crowded rooms, if carefully investigated, would no doubt be found to be in a certain inverse ratio to the space, a death marking every degree of concentration of the expired atmosphere."

It is demonstrated, in the Parliamentary Reports on the sanitary condition of the lower classes in England, that among the causes of disease in cities, there is none more extensive and active than a deterioration of the air produced by the poor, overcrowded in ill-ventilated dwellings, and by operatives and trades-people, congregated in small and confined apartments. As in such situations, typhus and other forms of disease unquestionably originate, it follows that the means of preventing the evil is to limit the number of inmates in apartments of given dimensions; and to provide dwellings and factories with suitable apertures and sufficient space around them for free ventilation. Such sanitary measures, with attention to personal cleanliness, carried into effect by an efficient police, would put a period to the prevalence of the disorders referred to; and at the same time minister a wholesome rebuke to the mercenary spirit of proprietors and landlords. As there are legislative enactments prohibiting the overcrowding of emigrant ships, why should not legal provision be made to prevent the overcrowding of habitations in cities? For such a law there are precedents. In 1563, Queen Elizabeth commanded that in London, "one dwelling house should not be converted into more;" and, in 1580, she "published a proclamation forbidding any dwellings to be erected on new foundations within three miles of the city gates; and that only one family should inhabit each house."*

JOSEPH M. SMITH, *Chairman.*

* Brewster's Edinburgh Encyclopedia, Article, London.

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I.—1.

Sanitary Condition of Massachusetts and New England.

By Edward Jarvis, M. D., Dorchester, Mass.

The first thing that strikes one, in looking at the sanitary condition of this, or of any of these States, is the want of data, of recorded or ascertained facts, which will show the condition of the country.

We find that, while some and even many other matters that interest the people have been investigated in some or all of the States, this, the most important of all, has not been examined, and in most of the States has not been thought of.

In Massachusetts, very great attention has been paid to the survey of the physical condition of the State; and all that the power of the legislature could order, all that talent could devise, and all that money could sustain, and industry accomplish, has been done for the lower and the uncertain and transitory interests of the people.

We have had a geological survey by one of the most accomplished geologists of the country. He was employed by the government during a long series of years, and at a cost of many thousand dollars; and the work was well done. We have had a survey of the Natural History of the State, comprising the insects, quadrupeds, reptiles, birds, fishes, every living thing and natural object that could interest the prosperity or attract the curiosity of the State or people. All these surveys are well done; the surveyors were men of the highest order of talent and of science and learning each in his several way, and they were liberally paid for their work. They had opportunity and means enough to do their work. There was no measure of time determined nor stint of money allowed; but the only condition was to finish the appointed work, and take time and reward accordingly.

There was also an agricultural survey, which was carried on by the late and accomplished Henry Colman, for four years, and then the work was arrested by the legislature. But in this time, informa-

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tion was obtained as to the kinds and capacities of soil in the State, the kinds of crops produced, the methods of cultivation, the comparative value of these various methods, the kinds of manure, the effect of these on various kinds of soil and on the different kinds of crops.

Then the kinds of cattle for labour, or food, or clothing, horses, oxen, cows, pigs, poultry, were carefully examined, and the best method of raising and sustaining them ascertained; nothing that could relate to the profits of agriculture and horticulture was neglected.

The result of all these inquiries relating to the physical interests of man were reported to the government, and by them they were printed in many large and beautiful volumes, for the use of the people, and thus the wisdom and experience of all the State was concentrated and then presented to the people, so that all may be guided in their selection of lands and crops, and in their methods of cultivation.

These are volumes of great value. They are an honour to the individuals who projected, to the State that caused and paid for them, and to the scientific gentlemen who conducted the surveys.

But notwithstanding so much has been done to ascertain the habits, characters, wants, and liabilities of land and cattle and poultry, nothing has been done to ascertain the same facts in regard to man himself, the very person who conducts them, and enjoys them, and for whom alone they are allowed to exist.

We now know well how to feed our cattle, to give them the greatest muscular power, or to create the most flesh for food, or our poultry to produce the best eggs or chickens—or our silkworms to obtain from them the most valuable cocoons, but no inquiry is made by public authority to know the kind of food that will give man the greatest power of muscular action or the clearest brain or blandest feelings or the longest life.

In the year 1847, the subject of the sanitary survey of the State was brought before the American Statistical Association, which appointed a committee to petition the legislature of Massachusetts on this subject. This committee prepared a memorial setting forth the general ignorance of this matter, the probable difference of health and longevity in the different localities of the State, and different conditions of the people, and asking that a sanitary survey be ordered by law, and that it be executed by the authority, and at the cost of the commonwealth.

The legislature, after giving the petitions a hearing through their

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Judiciary Committee, printed a large edition of 2000 copies of the memorial for their own use and for general distribution. This is all they were willing to do, for they thought that the public sentiment was not sufficiently enlightened upon this subject, and that popular opinion, however willing it might be to spend money to inquire about all the inferior interests of animals and crops, yet would not sustain the government in ordering a survey of the condition of man as to his health and strength, his life and mortality. With this view, they voted to refer the matter to the next legislature, or, in other words, to postpone it for another year, and wait the effect of the memorials and of the other means which might be taken to interest the people in this measure.

In 1848, the Massachusetts Medical Society took the matter up, and caused a memorial to be prepared and presented to the next legislature in 1849, in behalf of this object, and the Statistical Association again urged the matter upon the government. This legislature, in 1849, through a select committee, gave the agents of these societies an attentive hearing, and then printed an edition of 3000 copies of the two memorials of both the Statistical Association of 1847 and the Medical Society of 1848. After a long delay, at the very end of the session, an act was passed authorizing the governor to appoint a committee to consider the whole matter, and, should they think it advisable, to digest a plan of a sanitary survey, to be submitted to the consideration of the next legislature in 1850.

The governor, in accordance with this vote, appointed this commission, and placed at its head Lemuel Shattuck, Esq., an able and learned statistician, who has been very much interested in all matters of vital statistics.

This commission have prepared a report recommending a very extensive plan of registration and inquiry relative to births, marriages, and deaths; to sickness, causes of sickness, and mortality. They propose the establishment of a general board of health for the State, with a secretary, who shall devote his whole time to these matters, and have a satisfactory reward for competent services. In connection with this general board, they propose the establishment of local boards of health in each city and town, who shall have supervisory authority in all matters affecting public health, and who shall report annually to the general secretary. With these local reports, and with the results of such inquiries as the secretary shall otherwise undertake, and the general board shall order, an annual

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report shall be made to the legislature and people of the sanitary condition of the whole commonwealth.

It is yet to be seen whether our legislature will adopt this plan. It is to be feared, however, that it will share the fate of the first petition, and be referred to the next legislature.

In the mean time, waiting for the facts that are to be developed by the desired sanitary survey, we have a few facts that afford some indications of the sanitary condition of Massachusetts.

In the first place, we have the imperfect Registration Reports of births, marriages, and deaths during the seven years from May 1, 1841, to May, 1848. In 1849, the law requiring these returns from the local authorities was altered so as to have them made for the year ending December 31, and the next returns to be made for the year and eight months ending December 31, 1849. These last returns, although in the secretary's office and in the hands of the proper officers, are not yet digested, nor will they be before this report shall be made, and probably before it shall be printed. The law of 1842 required the returns of various items respecting every person who shall have died—as the name, sex, age, disease, and the occupation, if an adult male. The numbers only of the marriages and births were required of the clerks of towns and cities.

In 1844, the law was amended so as to require, as to marriages, the date, place, name, the residence, and official station of the person who performed the service; the name and surname, age, and residence, and the names of parents of both parties: and, as to births, the date, place, sex, name; the name and surname, and residence of one or both parents, and the occupation of fathers.

In 1848, this law was amended so as to facilitate the returns, and make it more stringent in its action upon the people.

These facts are now collected by the clerks or other officers appointed for the purpose in the towns, and then the whole are returned to the Secretary of State, who, or whose agents digest them, and whose duty it is to "prepare from them such tabular results as will render them of practical utility," and to "make report thereof annually to the legislature."

Under these laws, we have had seven annual reports, which, though they leave much to be desired, yet convey much valuable information relative to the health and longevity of the people of this State. These reports are imperfect in the returns of many of the towns, which do not include all of the births, marriages, and deaths.

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Some clerks only record and report those which they *happen* to learn. The people in some towns make these returns to the local officer much more than in others. As there are some of these imperfectly returned towns in every county, none can be assumed as having the whole returns, and we cannot, therefore, compare the number of births, marriages, and deaths with the population. Hence the proportionate mortality, which is one of the first elements ordinarily assumed in the comparison of one district or State with another, is wanting here.

In the succession of administrations of the secretary's office, the preparation of these reports has been committed to different hands, who may have had different notions of what they should contain. Hence they differ as the different years. No permanent plan or purpose has governed all of them; and the accumulated facts of successive years have been brought to bear upon and establish very few single principles.

Looking for the effect of locality, or the connection of locality with mortality, we find, as to sex, that this is stated as to counties in the 1st, 2d, 3d, and 4th reports, but not subsequently.

The diseases as to counties are stated in all the reports. The ages as to counties are stated in the 2d, 3d, and 4th reports, but not in the 1st, 5th, 6th, and 7th.

Looking at longevity, the ages are given in periods of under 1, 1 to 2, 2 to 5, 5 to 10, 10 to 20 years, and all above this in decennial periods, for the whole State, in all the reports.

The same ages are given for the counties in the 2d, 3d, and 4th reports. The average duration of life is given for the State and counties in the 3d and 4th, and for the towns in the 3d report. The average age of all who died over twenty years old is stated in the last year's report. The average age of males over twenty years old engaged in various occupations is stated for each of the seven years, and in the last four reports the two previous years are also stated singly. In none of these reports are the different years added together, so that no use is made of the accumulated numbers; and hence, the average of the duration of life of persons engaged in the several employments, which is of great value when it is calculated from the observation of the large number of deaths during seven years, becomes of comparatively little value when limited to one, as in these reports. The facts of the individual years, however, are in all the reports, and he who wishes to use them for inference can add them all together.

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Two valuable letters from Lemuel Shattuck, Esq., are in the 2d and 4th reports, in respect to the objects and importance of registration, and are worthy of the attention of every one who is interested in these matters.

It is thus seen that our registration reports, although they contain information of great value, yet are far from what is desired, and from what we hope will hereafter be presented by our public officers. The new law provides much better means for gaining this information in respect to births, marriages, and deaths, from the families, and affords better inducements to the local officers to make full returns to the Secretary of State. And with this more full information, we trust that we shall have more perfect tables and more complete reports of the movements of our population, and of the sanitary condition of our State.

The city of Boston has printed annually a sheet embracing the number of deaths in periods of under 1, 1 to 2, 2 to 5, 5 to 10, 10 to 15, 15 to 20 years, and in decennial periods thereafter. These bills of mortality contain also the number of persons of each sex who died of each of the several diseases.

Last year, the city appointed a registrar and also a clerk, who devote their whole time to the business of registration and to the general superintendence of burial grounds.

The city registrar has published one pamphlet report, containing, besides the facts which were in the previous annual sheets, the number of births, the birth-place of the parents of each child born; the number of marriages, and the birth-place and ages of the marrying parties; and, as to deaths, the diseases, and the number of deaths from each disease, in each month, and the birth-place of the deceased.

The city of Lowell has, for several years, published its bills of mortality, which contain the number of persons who died from each disease and in each month.

This is all that has been published respecting the mortality of Massachusetts. Besides these, there have been a few private inquiries made as to the sanitary condition of some localities of the State, some investigations as to the prevalence and fatality of some diseases, and some few treatises in respect to the history of certain diseases.

But all these data afford but very unsatisfactory grounds for inference as to the sanitary condition of this region, and of the longevity of our people.

Nevertheless, there is sufficient food for reflection and enough to

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show that a sanitary investigation is all important, and that probably it will result in developments respecting the health and longevity of our people which they cannot then overlook, and which have a far greater bearing upon the interest, the prosperity, comfort, and happiness of the community, than all other surveys ever undertaken by any government or people.

New England, and Massachusetts especially, are generally considered as the healthiest regions of our country, perhaps of the earth. The people here believe it, and we have as yet no reason to doubt it. Taking all the data that we have for comparison, the longevity in this country seems to be as great as in any other nation, and greater than in most nations. The expectation of life is as great, on the whole, though in some periods it is greater and at others less, as it is in the most favoured of the European nations.

From very small opportunities of comparison, there seems to be more sickness in this country than in England and Scotland. This is not offered as a fact, but only as a matter worth the inquiry, suggested by the difference of experience of the health insurance companies of this State and that of the benefit societies in Great Britain. When the health insurance companies were first proposed in this State, there were no data here by which they could establish the rates of premium. There had been no observations made, nor records of sickness kept, so that the managers of these companies were compelled to look to foreign experience for guides in this matter. But none even of these were entirely adapted to a miscellaneous class of applicants, as most of the benefit societies are established for a more limited purpose, for especial classes of people —the poor, or persons of certain ages, or engaged in certain occupations. In order then to obtain a rate of premiums suited to persons of every class, occupation, and age, some of those companies took several English and Scottish scales of premium, and made an average of such as seemed to be the most applicable to our condition, and from this derived a new scale; and thus, in the beginning, all of them founded their rates on the experience of England and Scotland. Hence, those which they adopted were doubtless as high as those which they copied, and of course presupposed the same liability to attacks of sickness, and the same average duration of disease, here as there. Unfortunately, many of these have found these rates too low. The sickness money which they paid out amounted to more than the premiums which they received.

Four of these companies closed their business as they found that

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they were consuming their capital. A large and respectable lodge of Odd Fellows, in Boston, which is practically a benefit society, had the same experience, and was compelled to increase its rates of premium or diminish the sickness money which it could pay out.

These are but few data to found an opinion upon; but they give rise to the suspicion that we have more sickness here than is experienced by the people of England, and show that it is worth the while to establish a thorough inquiry, to know whether it be so or not, and, if so, how far.

According to the registration reports of Massachusetts, there were 57,705 deaths reported during seven years whose causes were stated, in the State, not including Boston.

The bills of mortality of Boston state the causes of 25,420 deaths which occurred in that city during the last nine years.

The registration law of New York has been in operation three years, and the two published reports state the causes of 29,449 deaths which occurred in that State, not including the city of New York, during two years, 1847 and 1848.

The bills of mortality of the city of New York state the causes of 46,890 deaths that occurred in that city during four years.

These causes are distributed in the several classes as in the following

TABLE.

Classification of causes of death.	Massachusetts.	Boston.	N. York State.	N. York City.
Zymotic, endemic, epidemic, and contagious,	15,500	7,809	9,316	13,351
Diseases of uncertain seat,	7,681	3,494	2,701	5,193
" organs of digestion,	2,764	3,061	1,733	3,571
" " circulation,	1,147	445	433	946
" " respiration,	17,410	5,795	8,516	11,012
" " locomotion,	244	145	187	191
" " generation & urination,	789	488	478	618
" brain and nervous system,	5,261	2,494	3,118	9,425
" skin,	102	55	34	68
External causes,	2,368	999	1,344	1,853
Old age,	4,439	635	1,589	662
	57,705	25,420	29,449	46,890

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Proportion of deaths from each class of causes to 10,000 *deaths from all causes.*

Diseases.	Massachusetts.	Boston.	N. York State.	N. York City.
Zymotic, endemic, epidemic, and contagious,	2,686	3,072	3,159	2,847
Of uncertain seat,	1,330	1,374	919	1,107
Of the organs of digestion,	478	1,204	588	763
" " circulation,	198	175	147	261
" " respiration,	3,017	2,279	2,893	2,348
" " locomotion,	42	57	63	40
" " generation and urination,	136	191	161	141
Brain and nervous system,	811	981	1,059	2,010
Skin,	17	21	10	14
External causes,	410	393	456	395
Old age,	769	249	538	141

The registration reports of Massachusetts and New York do not include the deaths in the cities of Boston and New York, excepting two years of the former city. But they are excluded here, and therefore the deaths, above stated as occurring in the States, were in the rural districts and not in the great cities.

In this classification, diarrhœa, dysentery, cholera, cholera morbus, thrush, and also influenza, croup, and hooping-cough are included in the zymotic class. Transferring them to their own classes, we can more accurately compare the proportionate prevalence of the diseases connected with the organs of respiration and digestion. Consumption is so important and fatal a disease that it is interesting to compare the prevalence of that also in different places.

Ratio of deaths in 10,000 *deaths from all causes.*

Causes of Death.	Massachusetts.	Boston.	New York State.	New York City.
All diseases of the digestive organs,	1,223	2,129	1,745	1,830
All diseases of the respiratory organs,	3,423	2,706	3,417	2,617
Consumption,	2,422	1,492	2,299	1,421

These tables show a very different distribution of diseases in these two States and these two cities. There is a larger proportion, 23 per cent., of deaths from the endemic, epidemic, and contagious class, and also of the diseases of the organs of digestion, in New York, than in Massachusetts; and a large excess, 41 per cent., of diseases of un-

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certain seat in Massachusetts than in New York. These differences, perhaps, may be explained away by the difference in the nomenclature, for under the head of infantile diseases 7057 deaths are reported in Massachusetts during the seven years registered, while none under this head are given in the reports of New York. Probably most of them should be referred to cholera morbus, cholera infantum, and teething, and therefore included in the zymotic and the digestive classes, and not in that of uncertain seat. Taking all the deaths from the first three classes in this table, we find that in 10,000 deaths there were 4494 in Massachusetts, and 5666 in New York, from these causes.

There is also a difference of 30 per cent. in the deaths from diseases of the brain and nervous system in favour of Massachusetts.

The greatest difference is in the deaths from old age, being 39 per cent. greater in Massachusetts than in New York. This difference may be accounted for, in part, by the difference of the population of the two States. New York is of more recent growth than Massachusetts, and it has increased more rapidly both from births and from immigration within the last forty years. Consequently, it has a larger proportion of children and youth, and a smaller proportion of old persons, than Massachusetts. According to the national census of 1840, there were children, under 5 years of age, 125 per 1000 of all ages in Massachusetts, and 155 per 1000 of all ages in New York. At the other extreme of life, there were, over 70 years of age, in New York 16 per 1000 of all, and in Massachusetts 27 per 1000 of all the white inhabitants.

There would, therefore, be a larger proportion of children, the subjects of teething, convulsions, cholera infantum, &c., in New York, and a larger class liable to die of old age in Massachusetts.

The most remarkable difference in the distribution of the causes of death is between the cities and the country of both States.

In New York, the zymotic diseases prevail more in the country, but in Massachusetts they prevail more in the city.

The diseases of uncertain seat are not very unequal in city and country, though they differ in the two States.

The diseases connected with respiration are much more prevalent in the country than in the city of both States, being in Massachusetts an excess of 32 per cent., and in New York 28 per cent., of the pulmonary diseases that are not of the endemic or epidemic class. The difference in favour of the cities in respect to consumption is still greater. The deaths from this disease were 88 per cent.

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more in the rural districts of both States than in Boston and New York.

The deaths from diseases connected with the brain and nervous system were 20 per cent. more in Boston than in the rural parts of this State, and apparently 89 per cent. more in the city than in the country of New York, and apparently 147 per cent. more in New York city than in the country towns of Massachusetts.

The deaths from diseases of the digestive organs have a much larger proportion to the whole in both cities than in the country, being in Massachusetts 151 per cent., and in New York 29 per cent., greater in the crowded than in the rural districts.

In connection with these last two classes, must be noticed another probable difference which is in the nomenclature. The proportion of deaths from diseases of the brain and nervous system is nearly twice as large in New York as in Boston, but the proportion of deaths from diseases of the digestive organs is 57 per cent. greater in Boston than in New York.

The four New York city bills of mortality, here quoted, report 3687 deaths from convulsions out of 7669 deaths from all diseases of the brain and nervous system. Of these 3687 cases of convulsions, 3456 were of children. The reports of 1844 and of 1848, which give the ages at which the several diseases were fatal, show that 1546 of the 1785 cases of convulsions that were fatal in those years were of children under five years of age. The reports of 1846 and 1847 do not state the ages, but divide the persons dying into two classes, men and boys, women and girls. In these years, 1810 of the 1902 cases of convulsions were of boys and girls.

Knowing that convulsions occur in the last stages of very many cases of cholera infantum, teething, and other disorders of infancy, and often are apparently the immediate cause of death, it is probable that many of the cases which are reported as convulsions in New York are similar to those which, in Boston, are reported as cholera infantum, teething, or other primary disease of infancy. Hence the greater preponderance of the diseases of the brain and nerves in New York, and of those of the zymotic or digestive class or of uncertain seat in Boston.

The deaths from convulsions are to those from cholera infantum as 3075 to 1613 in New York, and as 599 to 463 in Boston. The deaths from diseases of uncertain seat were in Boston 1413, and in New York 1107, per 10,000 of all. This includes 487 deaths from

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marasmus, inanition, atrophy, and debility in New York, and only 107 from the same causes in Boston.

The deaths from old age are much less frequent in both cities than in the country, being in

	City.	Country.
New York,	141	538
Massachusetts,	256	749

This difference may be explained in part, at least, by the difference of the populations. The cities are of more recent and rapid growth than the rural districts; therefore they have a smaller proportion of people who have been there long enough to reach old age.

The proportion of white persons over 70 years of age in 10,000 of all of the same colour was, in 1840,

	City.	Country.
New York,	86	147
Massachusetts,	96	304

Comparing the proportions of the living and of the deaths of persons over 70 years of age in city and country, it is manifest that, either from later growth or from more frequent deaths in the early and middle periods of life, there are fewer that have as yet survived to old age, and are subject to death from senile causes, in the compact towns than in the sparse districts. But the facts discovered in America are not sufficient to determine with certainty whether the city or the country is more favourable to the life of those who have survived the dangers of the early and middle periods of life, and have entered upon old age.

There are no data to determine the proportion of mortality to the population of the country. But the reports of the cities seem to contain all of the deaths which have occurred in them. Yet, for want of proper data, we cannot determine the relative frequency of deaths in town and country.

The average longevity of those who have died is one of the elements in the calculation of the force of mortality and in the comparison of the health and vitality of different places. Yet this must always be taken with much limitation; because the average age at death must bear a relation to the age of the living, and this last differs very widely in different places. A new and growing State, like Wisconsin, is filled mostly with immigrants and their children, and

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has consequently fewer old people than Connecticut, which is continually sending off many of its young and middle-aged men and women, who, and whose children are to live and die in the newer States or cities. Therefore, if the proportion of deaths to the number of the living at any age is the same in both of these States, there would be more deaths of the young and of children, and fewer of the aged, in the new than in the old States for the reason that there are more of the youth and less of the old to die in the former than in the latter. These considerations must be applied to all growing cities, towns, and States, when they are compared as to their mortality with other cities, towns, and States that are growing less rapidly or are stationary.

The following table is calculated from the registration reports of the States and from the bills of mortality of the cities, excepting Louisville, for which the burial-ground register was copied.

Longevity of City and Country.

	Period of Death.	No. of Deaths.	Average Age at Death. Years.
Massachusetts, not including Boston,	1842 to 1848	62,257	31
Boston, ...	1842 to 1848	18,834	21.64
Providence, . .	1840 and 1843 to 1848	5,036	21.8
New York State, .	1847 and 1848	29,706	30.06
New York City, .	1838 to 1842, 1847–48	69,791	19.9
Philadelphia, . .	1837 to 1846	56,138	20.47
Baltimore, . . .	1846, 1847, 1848	10,267	20.43
Louisville, Ky., .	1840 to 1843	2,021	17.86

Hence we see that, either from the greater preponderance of childhood and youth in the new or growing population of the cities or from the greater chance of death, longevity is much less in the dense towns than in the open country.

The English reports corroborate this natural inference from the facts now stated, and are decidedly favourable to the conclusion that life is fostered less successfully in the city than in the country.

Having accurate and complete returns of the mortality of all the towns and districts of England and Wales, the registration officers are able to compare the mortality with the living population in every place; and hence they ascertain the relative mortality of places of different character.

The registrar general gives the following table in his fifth report, from an observation of the mortality of England and Wales during four years.

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	Metropolis and Districts of 25 Cities and Towns.	Districts of 12 Counties.
Population in 1841	3,759,186	3,440,501
Population to a square mile	5,108	199
Causes of Death.	**Deaths per Year in 1,000,000 Living.**	
All causes	27,073	19,300
Zymotic, endemic, epidemic, contagious diseases	6,013	3,442
Diseases of uncertain seat	3,034	3,237
" the organs of digestion	1,972	1,042
" " circulation	421	226
" " respiration	7,967	5,327
" " locomotion	168	106
" " urination	117	101
" " generation	276	166
" brain and nervous system	4,267	2,256
" skin	36	28
External causes	860	713
Old age	1,943	2,676

By calculating the ratio of deaths in each class to the whole number of deaths, we are enabled to compare the relative force of each cause or class of causes with that of the same classes in this country.

Proportion of Deaths from each Class of Causes to 10,000 *Deaths from all known Causes.*

	City Districts.	Country Districts.
Zymotic, endemic, epidemic, and contagious	2,217	1,781
Diseases of uncertain seat	1,120	1,677
" organs of digestion	728	539
" " circulation	155	116
" " respiration	2,942	2,759
" " locomotion	62	54
" " urination	43	52
" " generation	101	85
" brain and nervous system	1,576	1,168
" skin	13	14
External causes	317	369
Old age	717	1,412

Of the whole 94 causes of death, besides old age, 79 produced more deaths in the city than in the country, 4 produced the same number in both kinds of place, and only 11 produced more deaths in the country than in the city. And some diseases, especially those of children, are much more fatal in the compact towns than in the rural districts.

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Diseases.	Annual deaths in 1,000,000 living.		Proportions in 10,000 deaths from all causes.	
	City.	Country.	City.	Country.
Small-pox	1045	507	385	257
Measles	914	364	337	188
Scarlatina	988	478	364	247
Hooping-cough	829	415	306	215
Teething	616	120	227	62
Diarrhœa	306	148	113	76
Croup	268	201	98	104
Convulsions	2000	852	738	441
Hydrocephalus	876	334	323	173
Pneumonia	2084	982	769	568
Consumption	4463	3660	1648	1896
Asthma	687	196	253	103
Childbirth	221	137	81	70
Atrophy	214	220	78	113
Debility	758	938	279	486
Scrofula	52	101	19	52
Influenza	50	94	18	48

Compared with the number of deaths, consumption destroys more in the country than in the cities of England. But the whole number of deaths from this cause, in proportion to the living, is greater in the cities than in the country. It may be so in America, but we have no facts to determine the question for this or any of these States.

Measles, scarlatina, hooping-cough, convulsions, and teething seem to be especially fatal in the cities as compared with the country.

Atrophy and debility are more fatal in the country, and scrofula and influenza also. The excess of deaths from old age is an indication of the numbers who have survived to that extreme of life, and is, therefore, proof of healthfulness, rather than of unhealthfulness of the country over that of the city.

Taking all the causes of death, we find that, in England, while 100 die in the rural districts, 140 die in the compact towns out of the same number of people. We do not know how far this is true of this country; but, if the facts that are known respecting the kinds and proportionate prevalence of diseases, the age of the living, and the longevity of the dying, are connected with the same frequency of death here as in England, we may reasonably fear that there is a similar excess of mortality in our cities over that of the rural districts; and we may expect to find that life is lower and shorter, sickness more prevalent and fatal, where men are gathered thickly and crowded together, here as well as there.

These are important matters for consideration in this country

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especially, and well worth the attention of the political economist, who looks on man in his social position and men in the aggregate, and they ought to be carefully weighed by every individual who is considering whether the city or the country shall be the abode of himself or of his children.

There is a strong tendency of our population to gather themselves into large towns and cities. These are continually growing at the expense of the country. By comparing the census of 1820 with that of 1840, we find that the population has increased much more rapidly in the compact towns than in the sparse districts.

	Population 1820.	Population 1830.	Increase.	Increase per cent.
Twenty-four cities and towns in Massachusetts	129,753	262,284	132,531	102
Rest of Massachusetts	393,534	475,415	81,882	20
Twenty-two cities in the United States	508,561	1,297,861	789,300	155
Rest of the United States	9,129,570	15,770,805	6,641,235	72

The census of 1850 will probably show a much greater disproportion of increase of the town over that of the country.

We have no satisfactory data for comparing the health of Massachusetts or of any of the United States with that of other countries. The calculations of the life insurance companies would seem to be the most perfect and reliable ground of comparison. But they are not in this country based upon any long experience, nor on very extensive observations. Besides, both here and elsewhere, they are confined mainly to the more comfortable and healthy classes of people; the poor, the outcasts, the vagabonds, and the invalids, those in whose blood is the hereditary taint of disease, are rarely insured, and are, therefore, not subjects of the calculations of those companies, nor are they included in their estimates of longevity or mortality. Nevertheless the following table, compiled from the works of the various writers on life insurance, &c., in the several counties, affords an indication of the expectation of life in the classes which are the subjects of their observations and calculations.

Of 10,000 children at 10 years of age, there will die before their

	In New England.	England.	France.	Holland.
16th year,	300	322	364	436
41st "	2228	2692	2614	3341
71st "	6725	7077	6989	7263
and consequently will survive their 70th year.	3275	2923	3011	2737

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The average age of the dying is another element of comparison. This was in

England and Wales,	29.64 yrs.	Ireland,		28	years.
Prussia,	27.77 "	Russia, males,		19.88	"
Sweden,	27. "	Massachusetts,		29.11	"
Austria,	23. "	Middlesex Co.,	Mass.,	28.19	"
		Franklin Co.,	"	37.64	"
		Concord,	"	38.95	"
		Dorchester,	"	32.5	"
		Plympton,	"	41.4	"

Looking at the proportions of those who die at the various periods of life, we find that at some periods more die in Massachusetts than in some other countries, and at other periods less die here than elsewhere. This difference is owing, in part, to the difference in the composition of the population, and in part to the difference of the force of mortality; and this last is due to difference of circumstances, or habits, or constitutions of the people, and to difference of local and endemic influences.

Proportion of deaths at each period to 1000 *deaths at all periods of life.*

	Russia.	Prussia.	Sweden.	Denmark.	England and Wales.	New York State and City.	Massachusetts.
Under 20	639	537	529	922	505	505	468
20 to 60	205	246	256	270	267	354	329
Over 60	151	215	209	304	223	139	202
Over 80	338	38	39	67	58	7	66

We see, by this comparison, that the smallest proportion of persons died under 20 years of age in Denmark, and next in order came Massachusetts, and next New York. But between the ages of 20 and 60, the years of labour, exposure, and trial, the largest number died in New York, and the next in order is Massachusetts. A larger proportion survived to die beyond their 60th year in Prussia, Sweden, Denmark, and England than in Massachusetts, and the smallest proportion of all survived to and died after this age in New York.

A more satisfactory comparison would be derived from the proportion of those who die in any period out of those who have survived the preceding period.

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Proportion of deaths in each period per 100 of those who survived the previous period.

	Russia.	Prussia.	Sweden.	Denmark.	England.	New York.	Massachusetts.
Surviving 20 years, dying before the 61st year,	57	53	53	46	54	71	61
Surviving 60 years, dying before the 81st year,	74	82	81	76	73	73	67

According to this table, out of those who survived their years of growth and formation, and entered upon the active duties and responsibilities of life, the largest proportion died in New York, and the next largest in Massachusetts, before they had finished their years of labour.

But of those who survived their 60th year, and entered upon the rest of old age, the largest proportion still survived to their 81st year in Massachusetts, and then New York and England seem to be nearly as favourable to the continuance of life.

In these calculations, allowance must be made for the movements of population, being rapidly progressive in New York, and increasing in Massachusetts, while it is very nearly stationary in the European countries which are here quoted.

But, as the records of mortality present themselves to us, Massachusetts seems more favourable to the development and maturing of human life than New York, Russia, Prussia, Sweden, or England. But it is less favourable to a life of action than any of these foreign countries, but better than New York. To the years of old age, 60 to 80, again this State is most favourable.

The sanitary inquiries made in England and France have discovered very great inequalities of life and health among people of different classes, and in different conditions. Thus, according to several tables in the "Report on the Sanitary Condition of the Labouring Classes of England and Wales," prepared by Edwin Chadwick, Esq., of London, in the families of the

Prosperous classes,	1,088	died at an	average	age of	42.6 years.
Middling classes,	4,791	"	"	29	"
Poor classes,	19,849	"	"	20.4	"

In the families of the more comfortably situated, only 20 per cent. died under the age of 5 years: while among the poor, 50 per cent. of those who died had not passed that age.

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Among the prosperous, 46 in every 100, and among the poor only 8 in 100, lived to their 61st year.

I have had opportunity to make some limited inquiries in this State relative to the life and mortality of the various classes of people. And these have led me here to the same results as Mr. Chadwick reached in England: That, wherever there is a diversity of outward circumstances, there is a diversity of vital force, a difference of health and of longevity; that external poverty is but a sign of inward poverty, of a weak body and feeble mental and moral power; and that, generally, what the world calls poverty, the want of estate, or destitution, is not a thing of accident, or of external circumstance, but it grows out of the man, and is a necessary consequence of the quantity of vital force that belongs to him—to his body and to his mind.

I analyzed the bill of mortality of this town, Dorchester, and divided all the persons who had died into four classes: 1st. Farmers who owned their farms. These are generally the most discreet, quiet, comfortable, and prosperous people. 2d. Labourers, including all who work at day labour or on wages, without capital. 3d. Master mechanics. 4th. Merchants, capitalists, professional men. These classes included all who had died in the course of twenty-seven years, which was as far back as I could trace their condition with any certainty. There were 1767 deaths in this time. The average longevity of all was 32 years, 6 months, and 18 days.

Proportion of deaths in each period to 10,000 *deaths in each class, average longevity.*

Periods.	Farmers.	Labourers.	Mechanics.	Merchants, &c.
Under 2 years,	1240	3138	2867	2156
Under 5 "	1884	3953	3689	2920
Under 20 "	2375	4743	4760	3989
20 to 60	3408	3682	3140	3731
Over 60	4217	1573	2200	2269
Average longevity,	45 y. 8 m. 6 d.	27 y. 5 m. 14 d.	29 y. 6 m. 21 d.	33 y. 2 m. 27 d.

A similar result was obtained from an analysis of the bill of mortality of the town of Brooklin, during a period of 46 years.

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Periods.	Farmers.	Labourers.	Mechanics.	Merchants, &c.
Under 2 years,	1470	2099	2121	2408
Under 20 "	3362	3202	5246	4544
20 to 60	3460	4915	3443	3611
Over 60	3188	1176	1312	1852
Average longevity,	39 y. 0 m. 12 d.	27 y. 7 m. 8 d.	24 y. 2 m. 17 d.	29 y. 3 m. 3 d.

The same kind of result was obtained from an analysis of the mortuary register of the town of Concord, during a period of 63 years.

The few facts that are known are, to this great subject, like the few pieces of ore or coal that a proprietor finds in an unexplored field. They indicate that much more is to be discovered, and the importance of farther examination. A sanitary survey of this and of every other State would, I fear, demonstrate an inequality in the distribution of life in various places and among various classes of people, such as few either of the philanthropists or political economists now suspect. And, when these facts shall be demonstrated, the way will be open to the discovery of many of the causes of disease and death, some of which certainly, many of which probably, can be removed, and the health of man thereby be increased and his life prolonged.

EDWARD JARVIS, M. D.

DORCHESTER, MASSACHUSETTS,
30*th April*, 1850.

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I.—2.

Report on the Hygienic Characteristics of New Orleans.
By J. C. Simonds, M. D.

As a member of the Committee on Hygiene, it is my duty to report upon the sanitary condition of New Orleans for the past year; but, as the hygiene of each special year can be properly determined only after the collection of a series of mortuary statistics sufficiently comprehensive to give the peculiarities of the locality; as no such collection has heretofore been published; and as, at the expense of much time and labour, I have prepared one for the last three years, being the longest continuous period that could be obtained, I shall extend my report to this period.

In the report to the Association contained in the last volume of its Transactions, Dr. Barton has entered so fully into the physical peculiarities of the locality, that it is unnecessary to say anything upon this subject. I shall, however, submit the following extract from the "Annual Report of the Superintendent of the New Orleans Gas-light Company," dated February 1, 1849, and signed by Wm. S. Campbell, civil engineer, which, while it gives a graphic though concise description of our locality, and a valuable table of levels, also points out one of the nuisances to which we have long been subjected.

"New Orleans is built upon a plain, sloping gently from the bank of the Mississippi to the level of the swamp bordering Lake Pontchartrain, which swamp is about one foot above the ordinary high tides of the lake, or the surface of the Gulf of Mexico.

"That you may form a more accurate idea of the plain upon which the city is built, I subjoin the following list of levels, commencing at the north-east corner of the Gas-works, and running up Gravier Street to the river. The level of ordinary high tide in Lake Pontchartrain is assumed as zero, and the levels are taken on the curb-stones at the intersection of each cross street with Gravier.

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	Feet.
Lake Pontchartrain, ...	0.00
Gravier and St. Mary streets, . . .	2.00
" " Freret "	2.22
" " Gironde "	2.40
" " St. Paul "	2.45
" " St. Peter "	2.58?
" " St. John "	2.51?
" " Circus "	2.86
" " Philippa "	3.18
" " Baronne "	3.47
" " Carondelet "	4.37
" " St. Charles "	5.70
" " Camp "	6.80
" " Magazine "	8.95
" " Tchoupitoulas "	11.77
" " Front Levee "	12.12
High water line of Mississippi River, . .	13.44

"The mains are laid about two and a half feet below the curb-stones; consequently, in the most elevated parts of the city, they will be four feet, and in the lowest parts fourteen feet below the high water line of the Mississippi—while the mains in the rear of the city will be lower than the surface of the Gulf of Mexico. In trenching to lay pipes, we usually encounter water at eighteen inches below the surface of the pavements; hence our mains are virtually laid in water, and under sufficient pressure to cause filtration into the pipes wherever an imperfection exists in a joint. Under such circumstances, great care should have been taken to secure tight joints and to avoid making bends in which the water might lodge, and impede if not intercept altogether the passage of the gas. The same system of graduation adopted for taking off the water from the streets should have been followed in laying the gas-mains. In this event, the pipes leading from the river would have a continuous inclination towards the lake, while the cross pipes at each intersection would discharge into the first series. By this arrangement, all the water leaking into the mains would be taken to the low grounds in the rear of the city, and, after being collected in gas-tight wells, discharged by stationary pumps into the common sewers. No uniform system of graduation, with the view to draining the pipes, having been heretofore adopted, we have been compelled to rely on portable pumps, which are inserted into small cast-iron wells or 'dripping

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boxes,' from which the water is discharged into the streets. This method is usually adopted in other cities, and is sufficient when the soil is firm and dry; but, as our pipes are for the most part laid in water, and, even where the joints are made perfect in the first instance, are sometimes deranged by settling, experience proves that we must have recourse to a more efficient system of draining. Apart from the inconvenience to the community, and the expense of pumping daily into the streets a large quantity of water impregnated with sulphur and ammonia, we found it impossible to keep our mains sufficiently clear to afford a free circulation of gas; and, as the operation of pumping is frequently necessary during the period of burning, the lights in the vicinity of a pump oscillate with each stroke of the piston, and are sometimes extinguished. Very beneficial results have been experienced from the alterations and repairs made during the last summer, and in the course of a few years we will be enabled to remedy altogether the remaining defects."

During the past year, the Gas Company has progressed with the work pointed out in the preceding extract, and we have reason to hope that, ere long, the noxious exhalations from imperfect pipes and from the water pumped from the "dripping boxes," will cease to contaminate the air of the city.

The supply of water to a city is one of the most important elements in the determination of its hygienic condition. One would suppose that, with the mighty Mississippi rolling in front of our city, at a higher level, during the greater part of the year, than a large portion of the city, we would certainly secure to ourselves a sufficient, if not an abundant, supply of this necessary of life. Such, however, is far from the fact, and water is here *monopolized* by a *close** corporation, dispensing it very sparingly and at most exorbitant rates, which have this year been increased over 28 per cent. to families. "Thus, after operation for fourteen years, the price of water is in some instances brought back, in 1850, to a higher standard than that at which the company originally furnished it. In some instances, an increase of upwards of 500 per cent. has taken place." "We have undoubtedly a right to increase our rates; the limit, 10 per cent. *net* on the cost with interest† on the works and disbursements, could not easily be reached; but the policy of increasing our reve-

* It well deserves the epithet *close*, for, on application at the office of the company for a copy of the report of a committee on its condition, &c., a *mutilated* copy was *reluctantly* furnished. Subsequently, a copy was procured by a friend from a member of the committee.

† Query—Compounded?

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nues at the expense of consumers, while an inefficient system of inspection and superintendency (the radical evil which neither reduction nor increase will properly obviate), is continued, is tantamount to making the public suffer for the mal-administration of the company." "The poorest individual in New Orleans pays your company the same price that the wealthiest family would pay, though in point of fact he consumes less. If it were a luxury, there might be reason in measuring it out by this inflexible standard; on the contrary, it is a necessary with the poor man, in relation to which he can exercise no volition, and from the manner in which it is distributed to him, no economy in its use."

The following rates are charged this year:—

Hotels, $50, with 3 per cent. on rent.	
Boarding houses, from 7 to 3 per cent. on rent.	
Stores, one firm, ...	$16
Carriages, ...	5
Horses, each, ...	3
Hose box, ...	4
Water closet for private use, . . .	4
Baths, private, ...	5
Families, for four persons, ...	12
" every additional person, . .	1 50
" " " child under 15 years,	1

N. B. Each family a separate charge.

The report states that 2408 private families are supplied by the company with water. Supposing 5 members to each family, there are 12,040 persons furnished out of a population of about 120,000, or about 10 per cent. The remainder of the population is dependent upon rain water collected in wooden cisterns, which supply very generally fails in summer, when carts are seen peddling water at 5 cents a bucket. Though the report shows that the citizens have already paid for water to this company $613,577, on an expenditure by it of $1,252,463, being nearly 50 per cent., the city is no nearer freedom of supply. The company is in possession of real estate and works estimated at $1,456,435, together with the *exclusive privilege* of *forever* supplying the city with water, at rates *increasing ad infinitum*, except that the city may purchase the works in the year 1868, at a price to be fixed by arbitrators. In consideration of the city's being a large stockholder, and for funds advanced, water is furnished to extinguish fires; but there appears to be no

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obligation to furnish free hydrants. I know of but one, and that is in a location which renders it of but little use; one other has recently been closed, apparently because of its too great utility. How much longer our citizens will submit to this misused monopoly cannot be determined; but that they have a right, paramount to any restrictions that may be imposed by a legislature, to procure for themselves an abundant supply of this necessary of life, scarcely admits of question.

Taking as my guide the inquiries in the last year's circular of the committee of hygiene, I directed letters to the superintendents of public schools for the State, and for each of the three municipalities, requesting information upon the various queries therein contained. The only reply received is here given, with acknowledgment to the writer for his courtesy.

Letter from the Superintendent of Public Schools in the Third Municipality.

I give with pleasure (as I think it is the duty of all to contribute to the advancement of science) what information I can in answer to your inquiries.

As to what the system of our free public schools is, I refer you to the statistics of the State and to the municipal enactments.

Children are received into our schools from six to sixteen years of age. The time allotted to instruction is, in the winter, from nine to three, and in the summer eight and a half to three, with two recesses amounting to fifty minutes. The length of the summer vacation is about six weeks, including the whole of the month of August. The most of the rooms used for the schools of the Third Municipality are not of houses built expressly for school houses, but for family residences. They do not afford, on an average, more than ten or twelve square feet of floor to each pupil.

Each school has a large yard or place for exercise in the open air, but none is furnished with a gymnasium or any appliances expressly made for gymnastic exercises.

The influence of the free public school system on health is decidedly very good, as appears both from reason and fact. Attendance at school inculcates and enforces cleanliness in person and dress, withdraws the pupil from exposure to the heats of summer and the inclemency of the weather, and induces more temperate habits. Of the fourteen hundred children who have received the benefits of our schools during the last year, the number of deaths has not exceeded 2 per cent., about one-half of which may be set down to casualties.

Very respectfully,

(Signed) T. G. RAPIER,

Secretary of the Board of Education.

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Prior to any attempt to determine the sanitary condition of any place, a sufficient number of facts specifying the diseases and deaths must be collected together, and, when collected, it is indispensable that they be classified according to some defined system, that analogous diseases may be brought together and thus viewed as a whole. The following investigation is founded on the reports of the Board of Health, *published* at irregular intervals and prepared by its secretary from a Dead Book, which is written up from weekly (or daily) reports from the sextons of the different cemeteries. The reports of the sextons are made from registers kept by them of persons interred, and the special details of each case are furnished in a certificate authorizing the interment. The certificate is nominally a *sine quâ non*, and appears to have been intended, not for statistical purposes, but for the protection of life by obstructing the interment of the bodies of those who may have been illegally put to death. The certificate is *nominally* required; but the annual report of the Board for 1848 shows that 44 in each 1000 were interred without certificates. The persons authorized to give certificates are physicians, midwives, commissaries of wards, any two citizens, the coroner, sheriff, and in fact any one who will write a certificate and append M. D. to the signature, even though that signature be fictitious. While this system multiplies the labour very much, it fails to secure any good end, save the preservation of very imperfect data from which may be compiled statistics approximately correct. Exact details of the numbers dying of each disease have been furnished to the *Charleston Medical Journal*, and the reports of the boards from which they have been collected have been there specified. The best authenticated source of statistics of disease in this city is the books of the Charity Hospital, the annual reports of which for the last three years, arranged and condensed, form Table II., which may easily be compared with Table I., containing the entire number of deaths in the city during the same period.

These, then, are the facts. With regard to the classification, it has been found advisable to adopt a new system, the principles of which are here set forth for the consideration of the profession.

Diseases and other causes of death may be distributed into three divisions, as being due to peculiarities of time, season, or place; of the constitution of the individual, either congenital or acquired; and of the position and condition of the individual, and his relations with society. This distribution is etiological, and the three divisions may be designated zymotic, sporadic, and external causes.

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The first division, or zymotic, nearly corresponds with the class zymotic now generally adopted by statisticians. Though the term more properly belongs to my third class, it is deemed advisable to give it to the whole division, to deviate as little as possible from the established usage. This division will embrace all the diseases that are now included in the zymotic class except syphilis (which is referred to the third division, Class XIX.), every epidemic, every disease that can be clearly traced to endemic causes, and all contagious diseases, except those of the skin and of venereal origin. It is the standard by which to estimate the hygienic character of the locality, and is subdivided, etiologically, into three classes: I. Epidemic, referring to those occult causes by the operation of which various diseases, at irregular periods and seasons, become invested with peculiar power over the human organism; II. Endemic, having reference to those influences which remain persistent for a length of time in the locality, though developed with unequal force at different seasons; and, III. Grouping together those diseases to which the whole human race are subject, and subject but once, and to which I have given the designation *monoxysmal*, a term analogous to paroxysmal.

The second division is properly a residual class for the reception of those sporadic diseases that are not referable to the first and third divisions, the causes of which are more definitely known than the causes of this division. It will embrace all constitutional diseases except the venereal, and is the standard by which to estimate the health of the individual, to determine the deviations from health of the different races of mankind, and to compare the hygienic character of the various avocations and pursuits of life. The causes of diseases of this division being for the most part not yet well defined, it cannot be divided etiologically, but is subdivided anatomically and physiologically into thirteen classes, corresponding generally with the usual classification. Instead of diseases of the organs of generation, two classes have been formed of diseases peculiar to males, and those peculiar to females, as the distinction is well marked and can be easily made, and because the diseases of females should be distinctly pointed out. A class has been formed for diseases of the organs of the senses to provide for statistics of morbility as well as of mortality, and especially for hospital statistics. Deaths from old age form a class of this division, and also the still-born, which have heretofore been improperly omitted in statistical investigations. It is, philosophically, as important to determine the frequency of the

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causes of death of the fœtus, and to ascertain the conditions on which its vitality depends, as to attain a knowledge of similar facts concerning any other class of the organized creation; nor can we perceive why the difference of perhaps but a few minutes in the period of death should cause an entire change in the classifications and calculations of the statist. The second division will then comprehend the following classes, numbered from IV. to XVI.: Diseases of general or variable seat, of the nervous, respiratory, circulatory, digestive, and urinary systems, diseases peculiar to males and to females, diseases of the locomotive and integumentary systems, and of the organs of the senses, old age, and the still-born.

The third division embraces those causes of death external to the individual and not due to zymotic influences. It is subdivided, etiologically, into three classes: Class XVII., embracing chiefly accidents, may be denominated casualties, and as fatal accidents may be presumed to be in some measure proportional to the degree of exposure, and as the labouring classes are those necessarily encountering this exposure in the greatest degree, the ratio of the numbers of this class to the population may be considered as indicative of the social position and pecuniary condition of the community, conjoined to the kind of labour and degree of exposure of its labouring population. Class XVIII., including those killed by design either by poison or instruments and wounds (considering the term as connoting injuries inflicted by others), has been denominated *exopathic*, as indicating injuries originating from without, and is intended to signify those injuries directly inflicted by other persons. This class will serve to measure the degree of lawlessness and insubordination of the community. Class XIX. is denominated *esopathic*, being self-inflicted injuries or lesions, directly or indirectly originating from within; they are the consequences of a want of proper control over the passions, resulting in crime and its consequent penalty, an immoderate indulgence of the appetite, or intemperance, and the immoral gratification of the sexual propensity, whence ensues disease. This class will include the executed, suicides, deaths from intemperance and delirium tremens, and venereal diseases, both primary and secondary. The whole third division, indicating the value set upon human life, the degree of submission to the laws, and of regard for the rights of others, and the extent to which the animal passions are indulged, may be made the standard for estimating the moral and social condition of different communities.

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Having thus stated the principles of the system of classification, I shall next state the grounds on which certain diseases are placed in one class rather than another. Diarrhœa, dysentery, and especially cholera morbus, might with propriety, in many instances, be referred to the sporadic division; but, as these cases could be defined with difficulty even for a particular case, and not at all from such data as are usually furnished to the statist, it has been deemed better to conform to the usual custom, and embrace all under the zymotic division. Traumatic tetanus should be referred to the third division; but, as the cases are but few—as the distinction between traumatic and idiopathic is very frequently neglected in the reports—and as it would be uncertain whether to refer the traumatic to Class XVII. or XVIII., it has been placed with diseases of the nervous system. Frost-bite and sunstroke might be properly placed among the diseases attributable to endemic influences, but they have been placed in the division of external causes (to which the unprofessional would naturally refer them), in Class XVII., as referable to the exposure that necessarily precedes the occurrence of these cases. Delirium tremens has, in accordance with its etiology, been referred to Class XIX. It would be proper in a pathological classification to place it with diseases of the nervous system; but for the investigation of questions in vital statistics a pathological classification is far from being eligible. All diseases known to be of venereal origin are referred to the same class. Though contagious, they are dependent upon the conduct of the individual. Moreover, with the subdivisions of zymotic diseases now made, there remains no proper place for these diseases in this division. With regard to Class IV., no disease should be placed here that can be properly referred to any other class. In Class I. should be placed only those cases occurring during an epidemic. Some rule should, therefore, be established which should be uniformly used and generally adopted. The number of deaths for the preceding five years being known, the average for each month, week, and day could be calculated, and whenever the mortality from one disease equalled the average for the same period, the disease might be considered epidemic, and the period during which it possessed this character should be noted in the reports.

A perusal of the preceding principles of classification will doubtless suggest reasons for its general adoption. This system appears to serve the purposes of classification for statistical purposes more fully than any that I have seen, in consequence of adhering more

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closely to the principles of etiology, and of extending them farther in the grouping together of analogous diseases. It does not pretend to be a pathological classification, but is intended as a practical arrangement for statistical purposes; and, as much of such work is necessarily confided to unskilful and unprofessional hands, the more obvious the principles of the classification the more readily will a classified system be adopted, without which a mortuary record is of but little utility.

This arrangement admits the comparison of the mortality of different localities, of the morbility as well as the mortality of a community, of the statistics of hospitals with each other and with that of the locality, with greater facility and exactness than any other plan.

It is very common to prepare tables showing the ratio of the deaths from each disease or class of diseases to the entire mortality. This plan is very deceptive, and is calculated to mislead rather than direct to the true hygienic indications, for an excessive mortality from one disease will diminish the ratio of that of all other diseases to the aggregate. This is more evident in the statistics of New Orleans, for the last three years, than of any other place of which I have seen the statistics, in consequence of the large mortality of cholera and of yellow fever. This calculation is therefore deceptive, for it is of but little consequence to know that consumption constitutes 15 per cent. of the total mortality of Boston, while it is less than one-half of that proportion in New Orleans, this being due to the large excess of zymotic diseases and not to a deficiency of cases of consumption. Diseases altogether unlike the one under consideration should therefore be first eliminated, viz., zymotic diseases, external causes and sporadic diseases of other organs; this being done, we find that consumption constitutes in New Orleans 74 per cent., and in Boston 65 per cent., of all diseases of the respiratory organs, which indicates the greater prevalence in Boston of those acute diseases attributable to the influence of climate. In such calculations, therefore, the per centages should be calculated for each disease with the total of its class, for each class with the total of its division, and for each division with the total mortality. This has been done for the divisions and classes in Table IV., which has been calculated from Table IV., and for which the preceding explanation, we hope, will be sufficient. The latter table has been carefully prepared from the best authenticated data, by re-arranging the special diseases according to the proposed system. The figures will, therefore, differ from the totals of the classes in other publications.

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The proportion that each disease or class bears to other diseases is not, however, the best to estimate or exhibit the prevalence of diseases, though it has generally been resorted to as being the most certain and easy. The proper plan is to compare the diseases and classes with the living population, thereby ascertaining the per centage of the population dying annually from different diseases. Table V. has been prepared for this purpose from Table III., and shows the numbers dying in each 100,000 of each class of diseases in the several places named. This table, for instance, shows that, while 466 die in Boston, 586 die in New Orleans, from pulmonary diseases out of each 100,000 persons living. This table will reveal, on attentive examination, a more correct picture of the hygienic character of the places compared than I have seen elsewhere. It shows that, to a mortality from sporadic diseases and from external causes much larger than that of Boston and Charleston, is here *superadded* the great mortality from zymotic disease, and, in fact, that the mortality from epidemics and endemics not only does not supersede that of other diseases, but does not even diminish them.

That the facts shown by this table may be compared more readily, the supplementary Table VI. has been formed, showing the number of deaths from each class of diseases as compared with 1000 of the same class in this city.

A glance at this table shows the greater prevalence of nearly every class of diseases in this city than in Charleston and Boston, as there are but few of the classes that exceed the 1000 in New Orleans, assumed as a standard of comparison; but it is necessary to examine this table more in detail, and to add such explanations as appear requisite.

The total number of deaths as compared with the population appears less in Charleston than in this city, in the ratio of 10 to 4, and the total deaths in 100,000 persons in Boston is only three-eighths of the deaths among the same number of persons in this city. To 1000 unspecified here, there are only 91 in Charleston and 277 in Boston. This item is introduced in these tables, as it indicates either less attention on the part of the physicians to reports of the diseases, or a greater proportion of persons dying without medical attention.

Of the zymotic division, the deaths in Charleston are one-fifth, in Boston one-sixth, of the deaths in this city, which shows that the prevalence of these diseases is very much less than in this city. The sporadic division approaches nearer to equality, being 770 in Charles-

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ton, and 664 in Boston, to 1000 in this city One class, however, the still-born, is omitted in the statistics of Charleston. The deaths from external causes here in every 100,000 persons more than doubles those of the same division in Charleston and Boston—which indicates greater exposure here to the causes of death; but it also indicates less regard for life and less provision for the poor than in those cities.

Comparing the several classes of disease, we can ascertain what diseases are most or least fatal in this city, as compared with the cities under examination: and it may be remarked that, in looking over this table, all those figures exceeding 1000 show a greater mortality than with us. Being unable to separate the first and second classes for Boston and Charleston, they are unitedly compared, and show 97 and 175 respectively to 1000 here, including the cholera. Even if this be excluded, the figures would be 140 and 252; or, the deaths annually in each 100,000 persons, from these two classes, which comprehend the great avenues of death, to adult persons, and which are the true indications of the influence of locality, are in this city seven times as many as in Boston, and four times as many as in Charleston.

In the class which I have denominated *monoxysmal*, viz., diseases to which man is subject but once, the proportion is slightly in favour of New Orleans as compared with Charleston, and much in its favour as compared with Boston, where there are 1747 deaths to 1000 here. That this is due to a greater fatality of these diseases in Boston and not to a want of subjects here, will appear by the following table, showing the relative proportion of the population at different ages, according to the census of 1840.*

	New Orleans.	Charleston.	Boston.	New York
Under 10,	258	259	219	257
10 to 60,	712	704	754	716
Over 60,	30	37	27	27
	1000	1000	1000	1000

* This table is remarkable as showing a greater proportion of children and aged persons in Charleston, the population of which is nearly stationary; while the other cities show a greater proportion of adults, and Boston the greatest proportion. The age 10 was taken to include the negro race, which constitutes a considerable portion of the population of New Orleans and Charleston, and the census does not furnish data to know the numbers under 15 years, which would have been a better division. The point of division for the coloured at 55, as given in the census, has been taken as 60.

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As the greater number of these diseases are contracted before ten years of age, and as we have a larger proportion under that age than Boston, but a smaller proportion of deaths from these diseases, we may infer that they are more fatal in a northern than a southern climate. A comparison with Charleston serves to confirm this conclusion; as her infantile population slightly exceeds ours (proportionally), so there is a slight excess of deaths from this class of diseases.

No conclusion can be deduced from Class IV., as the number referred to it depends very much upon the compiler of the tables. I have referred to it no disease that could be appropriately placed elsewhere; but the Charleston table appears to have been less particular in this respect. Of deaths from nervous diseases there are here nearly twice as great a proportion as in Charleston, and nearly three times as many as in Boston; and even of diseases of the respiratory system we exceed those cities in the proportion of 1000 to 759 and 795 respectively, a result which we had reason to anticipate.

In diseases of the circulatory system, we are presented with a very unaccountable and even contradictory conclusion—the number of deaths in Charleston being about one-third, and in Boston about two-thirds the number in this city.

In the next class, or diseases of the digestive system, the deaths in Charleston are two-thirds, and in Boston less than one-half, the proportion here.

Passing several classes as presenting nothing worthy of remark, we notice that, of deaths from old age, the number in Charleston is more than five times, and in Boston two and a quarter times, as great as in this city, which it is needless to add is in favour of those cities. It is to be regretted that the compilers of the census of Charleston have entirely omitted the still-born, which we consider as important as any other class. It will be seen that of this class there is a larger proportion than in Boston, in the ratio of 100 to 88. Of deaths from casualties, the table shows nearly three times as many deaths as in Charleston, and two and a half times as many as in Boston. In the next class, denominated *exopathic*, we have nearly four times as many deaths as in Charleston, and more than seven times as many as in Boston. The deaths from the next class, *esopathic*, or self-inflicted, are in the proportion of 835 in Charleston and in Boston to 1000 in this city.

This comparison truly is fearfully against our city, and should certainly cause our citizens to awake from the delusion under which they have so long laboured, that New Orleans is a healthy city. It should stimulate our board of health to a more vigilant performance

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of their duties, and should excite the active co-operation of every citizen to endeavour to remove the causes of disease and abate their mortality. It should excite the attention of our legislators, both municipal and State, to an immediate investigation into the existing laws, the amendments they require, and the additional sanitary regulations requisite to diminish this large mortality.

Dr. Barton has truly pronounced the vital statistics of New Orleans to be an important problem as yet unsolved. Though its hygienic character is less known than that of any other city, it is more important and interesting from its very peculiarities. To a location not unlike that of the cities of Holland, are superadded a tropical climate and an unacclimated population. With a population collected from all parts of the world, embracing a more equal proportion of different races than can be elsewhere found, we have the elements for determining many questions of peculiar interest. Nature has done nothing for New Orleans but to furnish an unfavourable spot for a city, and the Mississippi River, from which to draw its nutriment for everything. New Orleans is dependent in a greater degree than any other city upon human enterprise and sagacity. This is even more true of everything relating to its hygienic qualities than aught else. Not favourably situated for drainage and sewerage, with the elements ordinarily causing disease, viz., heat, moisture, and a rapidly increasing mass of organic matter, its healthiness can only be secured by the application of science and labour in greater amount and with greater diligence and energy than is elsewhere necessary. This will not be done until the necessity of it is clearly pointed out. It is in vain that the board of health recommends sanitary measures, while all believe that our city is more healthy than any other. I have, therefore, not hesitated to present herein the truth, disrobed of the flimsy apologies with which it might be surrounded to conceal its unhealthiness. If this report shall even excite sufficient attention to cause an investigation into the facts which may be deduced from existing records, I shall be satisfied that I have promoted the cause of humanity, for such an investigation must result in improvements in our sanitary regulations. From the data in my possession, I am satisfied that the health of this city has improved much during the last twenty or thirty years; and I am equally well assured that, though New Orleans can never become as healthy as some other cities more favourably situated, a proper degree of attention to its hygiene will result in a decided improvement in its sanitary condition.

J. C. SIMONDS, M. D.

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Explanation of the Tables.

I. Shows the number of deaths in New Orleans during the years 1847–8–9, from each disease, &c., compiled from the *published* reports of the board of health.

II. Shows the total admissions, admissions of blacks, discharges, and deaths in the New Orleans Charity Hospital, compiled and arranged from the published reports and books of the Hospital.

III. Shows the deaths in the New Orleans Charity Hospital during the years 1844–5–6, and the deaths during the years 1847–8–9 in the Hospital and city of New Orleans; the deaths in Charleston of whites, blacks, and both, from 1822 to 1848; in Boston from 1831 to 1841, and from 1841 to 1845; and in Massachusetts for the years 1847–8, from each class of diseases. The deaths in Charleston and Boston have been prepared from the census of those cities, and in Massachusetts from the registration reports, by rearranging the diseases. The deaths in New Orleans are from Tables I. and II., and from the reports of the hospital.

IV. Exhibits the relative proportions of the different classes of disease as compared with other classes of the same order, of the different orders compared with the total of specified diseases, and of the specified and unspecified compared with the total mortality for New Orleans, Charleston, Boston, and Massachusetts, calculated from Table III.

V. Calculated from Table III., shows the proportion of deaths from each class and division of causes occurring annually in each 100,000 persons living. The population assumed for New Orleans is probably too high; if diminished, the numbers of each class would be increased, and *vice versâ* with Boston and Massachusetts.

VI. Calculated from the preceding, shows the relative proportion of different classes of disease in Charleston, Boston, and Massachusetts, to each 1000 deaths from the same class in New Orleans.

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I.

Interments in New Orleans during the years 1847, 1848, *and* 1849, *from the Reports of the Board of Health.*

Cholera,		3622	Undefined,	67	
Yellow fever,		2559	IV. VARIABLE,	——	1197
I. EPIDEMIC,		—— 6181			
			Apoplexy,	276	
Cholera,		272	Congestion of brain,	271	
Diarrhœa,		688	Cephalitis,	433	
Dysentery,		1167	Brain, diseases of,	29	
Fever,	138		Hydrocephalus,	65	
" intermittent,	88		Insanity,	5	
" remittent,	44		Epilepsy,	35	
" yellow,	1316		Convulsions,	681	
" malignant,	326		Tetanus,	201	
" typhoid,	567		Trismus nascentium,	303	
" typhus,	724		Paralysis,	39	
Fevers,	——	3203	Spinal marrow diseases,	12	
Catarrh,		160	V. OF NERVOUS SYSTEM,	——	2350
Erysipelas,		26			
Cholera infantum,		88	Sore throat,	15	
Croup,		126	Laryngitis,	36	
II. ENDEMIC,		—— 5730	Bronchitis,	97	
			Pleurisy,	46	
Pertussis,		82	Pneumonia,	323	
Parotitis,		1	Pleuro-pneumonia,	31	
Measles,		104	Consumption,	1743	
Scarlatina,		167	Hydrothorax,	21	
Small-pox,		218	Lungs, diseases of,	20	
III. MONOXYSMAL,		—— 572	Asthma,	12	
			VI. OF RESPIRATORY SYSTEM,	—	2244
A. *Zymotic*,		12,483			
			Anemia,	24	
Marasmus,		146	Arteries, diseases of,	2	
Debility,		553	Aneurism,	19	
Dropsy,		254	Heart, hypertrophy,	52	
Hemorrhage,		29	" dropsy,	3	
Inflammation,		29	" diseases of,	78	
Abscess,		11	Pericarditis,	13	
Gangrene,		50	VII. OF CIRCULATORY SYSTEM,	—	191
Cancer,		20			
Scrofula,		29	Diphtheritis,	1	
Tumor,		9	Gastritis,	79	

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Gastro-enteritis,	341	
Enteritis,	462	
Colic,	24	
Stomach, diseases of,	22	
Bowels, " "	35	
Cancerous diseases,	13	
Teething,	253	
Worms,	42	
Hernia,	4	
Ascites,	52	
Peritonitis,	41	
Hepatitis,	141	
Jaundice,	11	
Liver, diseases of,	33	
Splenitis,	1	
VIII. Of digestive system,	—	1555
Kidneys, diseases of,	8	
Bladder, " "	9	
IX. Of urinary system,	—	17
Organs, diseases of,	7	
X. Peculiar to males,	—	7
Breast, diseases of,	3	
Womb diseases,	38	
Childbirth,	33	
Puerperal diseases,	17	
Chlorosis,	2	
Hysteria,	1	
XI. Peculiar to females,	—	94
Rheumatism,	30	
Other diseases,	15	
XII. Of locomotive system,	—	45
Ulcers,	2	
Scorbutus,	13	
XIII. Of integumentary system,	—	15
XIV. Of organs of sense,		1
XV. Old age,		131
XVI. Still-born,		701
B. *Sporadic*,		8648
Fractures,	79	
Luxation,	1	
Injuries,	130	
Exposure,	45	
Drowned,	304	
Burns and scalds,	74	
XVII. Casualties,	—	633
Wounds,	60	
Strangulation, &c.,	12	
Poisoned,	14	
XVIII. Exopathic,	—	86
Intemperance,	243	
Venereal,	19	
Suicide,	5	
XIX. Esopathic,	—	267
XX. Treatment,		2
C. *External*,		988
Specified causes,	22,119	
Unspecified "	1758	
Total,		23,877

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II.

Report of New Orleans Charity Hospital for 1847, 1848, *and* 1849.

	Admissions.		Discharges.	Deaths.
	Total.	Blacks.		
Cholera,	2062		750	1360
Yellow fever,	3090	1	1908	959
I. Epidemic,	5152	1	2658	2319
Cholera,	208	6	45	158
Diarrhœa,	2506	5	1918	311
Dysentery,	1317	11	901	513
Fever,	532		462	8
intermittent,	8927	10	7981	3
remittent,	1587	6	1511	26
continued,	30		24	2
yellow,	2017	2	992	901
malignant,	136		51	83
typhoid,	408		417	101
typhus,	3897	2	3414	762
Catarrh,	156		140	1
Dengue,	8		9	
Erysipelas,	87		79	37
Croup,	1		1	
Cholera infantum,	1			1
II. Endemic,	21,818	42	17,945	2907
Small-pox,	113	13	105	28
Scarlatina,	7		6	2
Measles,	24		21	
Varicella,	2	1	4	
Pertussis,	2		2	
Parotitis,	13		13	
III.	161	14	151	30
A. *Zymotic*,	27,137	57	20,754	5256
Marasmus,	12	1	3	10
Debility,	323	2	276	8
Dropsy,	74		70	6

	Admissions.		Discharges.	Deaths.
	Total.	Blacks.		
Hemorrhage,	1		1	
Inflammation,	6		9	
Bile?	1		1	
Abscess,	428	1	407	2
Gangrene,	11			9
Scrofula,	38	2	40	4
Cancer,	1		1	1
Scirrhus,	2			
Tumour,	3		4	
Irritative fever,	3			2
Syncope,	1			
Singultus,	1		1	
Megrim?			1	
IV.	905	6	814	42
Vertigo,	3		3	
Apoplexy,	18		4	18
Congestion of brain,	65	1	6	56
Cephalitis,	66	1	18	39
Brain diseases,	16	2	2	12
Dementia,	9	1	8	
Mania,	27	1	26	
Hypochondriasis,	25		26	
Cephalalgia,	89		60	
Neuralgia,	70	1	71	3
Epilepsy,	44	1	35	9
Convulsions,	8		5	3
Tetanus,	30		9	23
Paralysis,	70		49	9
Myelitis,	1		1	2
V. Nervous,	531	8	323	174
Sore throat,	37	1	37	4
Laryngitis,	34	1	28	9
Bronchitis,	555	3	463	25
Pneumonia,	185	2	107	57

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	Admissions.		Discharges.	Deaths.
	Total.	Blacks.		
Pleuro-pneumonia,	31		19	10
Pleuritis,	163	3	146	14
Pleurodynia,	84	1	87	1
Hydrothorax,	13		10	5
Consumption,	788	10	355	400
Lung diseases,	12		2	8
Asthma,	18		17	1
VI.	1920	21	1271	534
Anemia,	194		182	15
Plethora,	1			
Varices,	4		4	
Phlebitis,	3		2	
Arteritis,			1	
Aneurism,	12		5	8
Stricture aorta,	20		18	11
Hypertrophy heart,	30	2	14	9
Disease "	41		29	18
Carditis,	12		8	2
Pericarditis,	24		24	6
Hydropericardia,	21		13	2
VII.	362	2	300	71
Gastritis,	223	6	195	4
Gastro-enteritis,	144	3	89	80
Enteritis,	117		119	30
Cancer stomach,	2		1	3
Disorder "	17	4	16	
Hematemesis,	5		1	2
Cardialgia,	3		3	1
Gastralgia,	75		72	
Dyspepsia,	53		61	
Indigestion,	9		3	1
Constipation,	163		139	
Colic,	112		104	
" pictonum,	105		92	1
Peritonitis,	19		12	14
Ascites,	153	12	88	88
Hernia,	32		27	3
Worms,	1		2	
Diseases, &c.,	5		5	1
" of spleen,	12		11	
Hepatitis,	95		70	31
Icterus,	98		86	7
Diseases of liver,	17	1	6	14
VIII.	1460	26	1202	280
Diseases of kidneys,	7		4	
Cystitis,	11	1	13	4
Albuminuria,	5		7	5
Diseases, &c.,	21		19	
IX.	44	1	43	9
Stricture urethra,	49	1	42	
Orchitis,	46		47	
Diseases, &c.,	22	1	21	2
X.	117	2	110	2
Diseases of breast,	4		3	2
Hysteria,	13		12	1
Chlorosis,	3		3	
Leucorrhœa,	12		8	
Paramenia,	43	1	43	
Diseases of womb,	18		19	1
" ovary,	4		3	1
Fistula, ves. vag.,	5		6	
Gestation, &c.,	347	1	300	2
Puerperal diseases,	13		4	10
XI.	462	2	401	16
Diseases of bones,	20		28	1
" joints,	39		41	1
Psoas abscess,	2			3
Gout,	14		11	1
Rheumatism,	1277	7	1028	7
XII.	1352	7	1108	13
Cutaneous diseases,	109	1	101	2
Scorbutus,	46	3	38	4
Scurf,	10		9	
Ulcers,	1144	3	1161	4
Excoriation,	2		1	

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	Admissions. Total.	Blacks.	Discharges.	Deaths.
Ecchymosis,	5		2	
Carbuncle,	20		20	
Hemorrhoids,	62	2	50	
Fistula in ano,	47		45	
Prolapsus ani,	2		1	
XIII.	1447	9	1428	10
Diseases of eye,	334	3	342	1
" ear,	23		22	
" nose,	7		6	
" teeth,	12		10	
XIV.	376	3	380	1
XV. Old age,	9	2	3	8
XVI. Still-born,	—	—	—	—
B. *Sporadic*,	8985	89	7383	1160
Fractures,	268	9	251	33
Luxations,	46	1	45	
Injuries, head and spine,	35	1	15	18
Contusions,	657	1	660	2
Sprains,	100		105	
Sun-stroke,	19		15	10
	3		4	

	Admissions. Total.	Blacks.	Discharges.	Deaths.
Burns and scalds,	144	2	129	17
XVII.	1272	14	1224	80
Wounds,	355	3	357	5
Poisoned,	6		2	3
From confinement,	1			1
XVIII.	362	3	359	9
Gonorrhœal,	168	1	156	
Masturbation,	2		2	
Syphilitic,	724	3	741	6
Intemperance,	148	1	142	6
Delirium tremens,	583	4	501	85
Suicidal hanging,	1			1
XIX.	1626	9	1542	98
Medical treatment,	22		30	
Surgical "			34	2
XX.	22		64	2
C. *External*,	3282	26	3189	189
Total,	39,398	172	31,326	6605
Reported,	39,393		31,512	6679

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III.

Deaths during the years specified in the places designated.

Place Number of years What year	New Orleans. 3 years. 1844-5-6.		New Orleans. 3 years. 1847-8-9.	Charleston. 27 years. 1822 to 1848.			Boston. 15 yrs. 1831-45.	Boston. 5 yrs. 1841-5.	Mass. 2 yrs. 1847-8.
	Hospital.		City.	Whites	Blacks	Both.			
Total	2131	6679	23877	8699	11220	19919	28875	11368	22311
Unspecified			1758	107	316	323	1586	249	1748
Specified	2230	6605	22119	8592	11004	19596	27289	11119	20563
A. Zymotic	827	5256	12483	2915	2434	5349	7020	2882	6401
B. Sporadic	1240	1160	8648	5110	8210	13320	18677	7769	13349
C. External	163	184	988	567	360	927	1595	468	813
I. Epidemic		2319	6181	2432	1763	4195	3772	1487	5414
II. Endemic	823	2907	5730						
III. Monoxysmal	4	30	572	483	671	1154	3248	1396	987
IV. Of variable seat	69	42	1197	1133	1971	3104	3694	1577	2332
V. nervous system	114	174	2350	971	1739	2710	2685	1040	1737
VI. respiratory "	539	534	2344	1493	2069	3562	6055	2444	5979
VII. circulatory "	37	71	191	74	48	122	407	192	435
VIII. digestive "	435	280	1555	823	1226	2049	2205	969	742
IX. urinary "	6	9	17	15	17	32	55	33	105
X. male organs	3	2	7	87	125	212	399	185	211
XI. female "	8	16	94						
XII. locomotive system	6	13	45	44	58	102	132	52	120
XIII. integumentary system	18	10	15	18	28	46	58	28	30
XIV. organs of sense		1	1						
XV. Old age	5	8	131	452	929	1381	971	326	1366
XVI. Still-born			701				2016	923	262
XVII. Casualties	88	80	633	216	214	430	819	273	613
XVIII. Exopathic	10	9	86	31	20	51	43	14	22
XIX. Esopathic	63	98	267	320	126	446	730	181	178
XX.	2	2	2						

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IV.

Relative Proportions of Classes of Disease, calculated from Table III.

Place . . .	New Orleans.			Charleston.			Boston.		Mass.
Number of years	3 years.	3 years.		27 years.			15 yrs.	5 yrs.	2 yrs.
What year . .	1844-5-6.	1847-8-9.		1822 to 1848.			1831-45.	1841-5.	1847-8.
	Hospital.		City.	Whites	Blacks	Both.			
Unspecified . . .			7.36	1.23	1.93	1.64	5.49	2.19	7.83
Specified			92.64	98.77	98.07	98.36	94.51	97.81	92.17
A. Zymotic . . .	37.08	79.57	56.43	33.92	22.11	27.29	25.72	25.91	31.13
B. Sporadic . . .	55.60	17.56	39.10	59.47	74.62	67.97	68.44	69.87	64.92
C. External . . .	7.31	2.86	4.47	6.60	3.26	4.73	5.84	4.21	3.95
I. Epidemic . .		44.12	49.52	83.43	72.43	78.42	53.73	51.59	84.58
II. Endemic . .	99.52	55.31	45.90						
III. Monoxysmal .	.48	.57	4.58	16.57	27.56	21.57	46.26	48.40	15.41
IV. Of variable seat	5.57	3.62	13.84	22.17	24.01	23.30	19.77	20.30	17.47
V. nervous system . .	9.19	15.00	27.17	19.	21.18	20.34	14.37	13.39	13.01
VI. respiratory system .	43.47	46.03	27.10	29.22	25.20	26.74	32.41	31.46	44.78
VII. circulatory system .	2.98	6.12	2.21	1.45	.58	.92	2.18	2.47	3.26
VIII. digestive system .	35.08	24.14	17.98	16.11	14.93	15.38	11.86	12.47	5.56
IX. urinary system . .	.48	.77	.20	.29	.21	.24	.29	.42	.79
X. male organs	.24	.17	.08	1.70	1.52	1.59	2.13	2.38	1.58
XI. female "	.65	1.38	1.09						
XII. locomotive system .	.48	1.12	.52	.86	.71	.77	.70	.67	.90
XIII. integumentary system	1.45	.86	.17	.35	.34	.34	.31	.36	.22
XIV. organs of sense .		.08	.01						
XV. Old age . .	.40	.69	1.51	8.84	11.31	10.37	5.18	4.19	10.23
XVI. Still-born .			8.11				10.79	11.88	2.19
XVII. Casualties .	53.99	42.33	64.07	38.09	59.44	46.38	51.44	58.33	75.40
XVIII. Exopathic .	6.13	4.76	8.70	5.47	5.55	5.50	2.70	2.99	2.70
XIX. Esopathic .	38.65	51.85	27.02	56.43	35.00	48.11	45.85	38.67	21.89
	1.23	1.06	.20						

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V.

Proportion of Deaths from different causes to 100,000 *persons living, calculated from Table III.*

Place / Estimated population / Number of years observed / What	New Orleans. 133,333. 3 years. 1847-8-9.	Charleston. 14,074. 15,555. 29,630. 27 years. 1822 to 1848.			Boston. 86,666. 15 years. 1831-45.	Mass. 700,000. 2 years. 1847-8.
		Whites.	Blacks	Both.		
Total	5969	2485	2671	2490	2221	1594
Unspecified	439	30	51	40	122	125
Specified	5530	2455	2620	2450	2099	1469
A. Zymotic	3121	833	579	669	540	457
B. Sporadic	2162	1460	1955	1665	1437	954
C. External	247	162	86	116	122	58
I. Epidemic	1545	695	419	524	290	387
II. Endemic	1433					
III. Monoxysmal	143	138	159	144	250	70
IV. Of variable seat	299	323	469	388	284	167
V. nervous system	588	279	11	339	206	124
VI. respiratory "	586	428	414	445	466	427
VII. circulatory "	48	21	493	15	31	31
VIII. digestive "	389	235	292	256	170	53
IX. urinary "	4	4	4	4	4	7
X. males	2	24	30	26	31	15
XI. females	23					
XII. locomotive system	11	12	14	13	10	9
XIII. integumentary "	4	5	7	6	5	2
XIV. organs of sense						
XV. Old age	33	129	221	173	75	98
XVI. Still-born	175				155	21
XVII. Casualties	158	62	51	54	63	44
XVIII. Exopathic	22	9	5	6	3	1
XIX. Esopathic	67	91	30	56	56	13

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VI.

Proportion of deaths from different causes to each 1000 *deaths in New Orleans from the same cause, calculated from Table V.*

	Charleston.	Boston.	Massachusetts.
Total,	417	372	267
Unspecified,	91	277	284
Specified,	443	379	265
A. *Zymotic*,	214	173	146
B. *Sporadic*,	770	664	441
C. *External*,	470	493	234
I. Epidemic, II. Endemic,	175	97	129
III. Monoxysmal,	1007	1747	489
IV. Of variable seat,	1297	946	558
V. " nervous system,	576	350	210
VI. " respiratory "	759	795	728
VII. " circulatory "	312	645	645
VIII. " digestive "	658	437	136
IX. " urinary "	1000	1000	1750
X. Peculiar to males, XI. " females,	1040	1240	600
XII. Of locomotive system,	1181	909	818
XIII. " integumentary "	1500	1250	500
XIV. " organs of sense,			
XV. Old age,	5245	2272	2969
XVI. Still-born,		885	120
XVII. Casualties,	341	398	278
XVIII. Exopathic,	272	136	45
XIX. Esopathic,	835	835	194

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J.

REPORT ON ADULTERATED DRUGS, MEDICINES, CHEMICALS, ETC.

The Committee on "Adulterations and Sophistications of Drugs, Medicines, Chemicals, &c.," present the following

REPORT:

THE resolution of the Association under which the committee is constituted instructs the members to "note all the facts that come to their knowledge, with regard to adulterations and sophistications of drugs, medicines, chemicals, &c.," and to report them at the next annual meeting.

Although the terms "drugs," "chemicals," &c., properly comprehend substances used in the arts, as well as in the treatment of diseases, the object of the Association, it is presumed, was to inquire after such merely as are employed for therapeutic purposes, and the committee have restricted their investigations accordingly.

That many of the articles used as medicines are of very inferior quality, and a source of much vexatious disappointment in practice, is the physician's daily experience; and that the more energetic and costly are frequently sophisticated, no one doubts;—but to obtain a sufficient number of "*facts*," properly avouched, and not contained in publications already familiar to the profession, to form a report of much value, or one likely to satisfy the expectations of the Association, has not been found an easy task by those to whom the duty has been assigned.

In appointing so large a committee, composed of delegates from most of the States of the Union, it was doubtless expected that many facts would be collected, and that information on the subjects referred would be obtained, from every part of the country; but, although eight months have elapsed since the members of the committee were informed of their appointment, and their active co-operation requested by the chairman, not a fourth of them have responded, nor have one-half of the States been heard from. This

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seeming negligence should not be ascribed to any want of interest in the subject, or disinclination to promote the laudable objects of the Association, but to the inherent difficulties of the investigation. In fact, many of the communications received by the chairman contain little else than expressions of this kind.

The special examiners of drugs appointed by the government, when called upon, have in every instance manifested a zeal and readiness in communicating such information as they were possessed of, highly creditable to them and satisfactory to the members of the committee. Although, in some instances, dealers in drugs have shown an indisposition to answer questions, or in any way promote the objects of the Association, there have been many honourable exceptions among them, and it is to these that we are chiefly indebted for what we know of domestic adulterations. Still, it must be confessed that less assistance has been derived from that source than was anticipated. They who fabricate and vend spurious articles are cautious not to criminate themselves; whilst honest dealers know but little of the trickeries of those who are engaged in the discreditable business, and are naturally averse to embroiling themselves by becoming informers. Nor are physicians, as a general rule, capable of giving the desired information. Although often disappointed in the effect of the remedies they administer, the circumstances which influence these results are too numerous, and the conclusions to be drawn from such failures too uncertain, in most instances, to authorize any positive deductions as to the qualities of the articles employed. And, withal, comparatively few have enjoyed the requisite opportunities for becoming critically acquainted with the sensible properties of drugs, and still fewer are sufficiently skilled in analysis to be able to detect fraud in their composition.

These circumstances will account, in part, for the limited character of this report, and also for the fact, which it is proper should be stated, that nearly all of the information contained in it is derived from the larger cities. To Doctors Jackson and Bowditch, of Boston; Reyburn and Johnston, of St. Louis; Frost, of Charleston, and Upshur, of Norfolk, especially, the Association is largely indebted for their zealous efforts in the prosecution of these inquiries. It is a subject of regret, however, to the chairman of the committee, that most of their reports came into his possession at a period too late to enable him to do justice to their authors, or to the subject.

The information obtained by the committee may be appropriately considered under two general heads: viz., *First*, as it regards *foreign*, and *secondly*, *domestic adulterations*.

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1st. *Of Adulterated Drugs imported from abroad.*

For a large number of our most useful medicines we are, and ever must be, indebted to foreign countries. Such are camphor, Peruvian bark, opium, ipecacuanha, columbo, jalap, rhubarb, &c., and, until a few years back, nearly all our chemicals were likewise imported.

Our druggists either order their supplies through the agents of parties residing in the countries where they are produced, or, which is more generally the case, purchase them from those to whom they are consigned, the greater number of these being denizens of the city of New York. These agents, or consignees, are mere *factors*, whose business it is to forward orders, and dispose of whatever is sent to them to sell. They seldom have much knowledge of the qualities of the articles that pass through their hands, and have no interest beyond the commissions they receive for their negotiations. So long as the market in this country was open for inferior or sophisticated drugs, it was the interest of those abroad to send hither whatever could not be sold at home. Hence, previously to the passage of the law for the inspection of drugs, the importations were of the most heterogeneous character. Good and bad, adulterated and pure, separate and mixed, according to the interests of dealers, deluged our market and filled our shops.

The operation of this law, although in some instances productive of inconvenience, has in many respects been beneficial.

Importers are admonished by it of the impropriety of trafficking in adulterated and spurious drugs and medicines, as well as discouraged by the forfeiture it works. It has stamped the practice with the seal of public condemnation, and, by calling attention to the matter, has awakened a wholesome jealousy in the minds of physicians and apothecaries, and thus improved the general tone of feeling on the subject. The American market is no longer flooded with foreign adulterated medicines, and even those of inferior quality, although unadulterated, are in a great measure excluded. By shutting out all such, a demand has sprung up for prime articles, which were previously unknown in our drug stores; so that, already, a sensible improvement is perceptible.

The inconveniences to which the law has given rise relate mainly to manufacturing purposes, and proceed from the difference in views and qualifications of the officers appointed to administer it. Thus, articles, good of their kind, often differ in their relative value; and the modes of ascertaining their value, pursued by different investigators, may differ so much as to cause great contrariety in results.

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Peruvian bark, for instance, which will yield one or two drachms of quinia to the pound, may be deemed sufficiently good to be passed by one inspector, and condemned by another, because it does not contain half an ounce. Opium, the product of the same soil and climate, and prepared with the same care, will vary greatly in the per centage of morphia it will yield, in different seasons, and according to the amount of water contained in it. When recently made from the poppy, it contains a large amount of water, much of which is lost when kept some time, although unchanged in other respects. The article varies, too, as it is produced in different countries, from the influence of soil and climate—East Indian from European; Turkish from Egyptian, &c.—and yet each of these may be advantageously imported for manufacturing the salts of morphia, although not suitable for galenical preparations. Now, according to the views of different inspectors, one variety may be admitted at one port and rejected at another; and the same variety, or even samples of the same parcel, may be differently disposed of, according to the greater or less accuracy of different analysts. In fact, the argument is not altogether hypothetical. An invoice, condemned at one port as below the proper standard, after being sent out of the country, has been re-imported into other districts, and passed as good. Iodine, not sufficiently purified for ordinary pharmaceutical purposes, may be well adapted for manufacturing iodide of potassium and other chemical preparations, in consequence of its lower price. And so likewise of other things.

These remarks are important from their bearing upon the domestic manufacture of some of our most valuable chemical remedies. In no part of the world, at the present time, are the various chemicals employed in medicine prepared of better quality than in the United States; and, when we consider the guarantee we have for their purity in the responsibility of manufacturers residing among us, alive to their reputation, and interested in exposing and putting down fraudulent imitations and adulterations, no impediments should be thrown in the way of, but every encouragement given to, our home manufacturers. Some modification of the present law, to obviate the difficulties referred to, is believed to be necessary by several of the special examiners, and it is to be hoped that those more immediately interested will be able to procure such changes, either in the terms of the law or its construction, as will remove all just causes of complaint, without interfering with the humane objects for which the law was enacted.

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In proof of the salutary operation of the law of Congress on this subject, it is only necessary to state that the inspectors for the ports of Boston, New York, and Philadelphia all say that the amount of impure drugs, and those of inferior quality, which has come under their notice within the last twelve months, is far less than during the preceding year. In a letter from Dr. Bailey, special examiner for the port of New York, dated on the 29th ult., addressed to the chairman, he says: "Of medicinal chemical preparations, the quantity condemned (within the last year) has been small. The present law seems to have put an effectual check to the importation of impure and spurious articles of that description. The importation of impure *opium* has greatly fallen off. I have not condemned *one-quarter* the quantity during the past twelve months that I did during the nine months previous; and the same may be said of many other important articles. As far as *this port* is concerned, the *standard of drugs has been materially raised by the operation of the present drug law.*" The same observation applies to the other large importing cities.

2d. *Of Home Adulteration.*

Being protected, in a great measure, from the introduction of adulterated medicines from abroad, it becomes interesting to know whether cupidity, aided by science and the characteristic ingenuity of our countrymen, will not soon supply, if not exceed, the abuses from former sources.

The attention of several members of the committee has been particularly directed to this subject, and it is satisfactory to learn that, thus far, there does not appear to be any *increase*, but, probably, *a diminution*, in the domestic sophistication of drugs. Certainly, if we leave out those whose chief business consists in the scandalous fabrication and sale of *nostrums*, adulterated medicines are not commonly vended in our large cities, except under the particular circumstances presently to be mentioned.

To determine this point, some of the physicians of Boston had "an analysis made by a competent chemist of a few articles purchased from various druggists and apothecaries in that city. Thirteen specimens were procured, from, 1st, the *wholesale druggists;* 2d, the *superior apothecaries;* 3d, *minor apothecaries.* The results of this analysis were more favourable than could have been anticipated. Only four out of the thirteen articles failed of being of the standard purity, viz., Turkey rhubarb and bitartrate of potassa, bought of the first class; yellow cinchona procured from one of the second class;

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and ipecacuanha from one of the third. The rhubarb was one-half, the cinchona one-eighth, of its proper strength; the bitartrate of potassa contained ten parts of foreign matter, and the ipecacuanha was half the strength it should have been."

A member of the committee from Missouri undertook similar investigations in the city of St. Louis, but with results less satisfactory. He analyzed various samples of mercurial ointment sold there, and generally purchased in the eastern cities, and "*in every instance*," found "*a large deficiency of mercury;*" and he was told, by reliable authority, that the ointment was sometimes prepared in St. Louis "by mixing a small portion of the genuine ointment with cerate, and giving it the requisite blue shade by the addition of crude antimony." An examination of fifteen samples of blue mass discovered great inequalities in strength, with deficiency of mercury in all. "One-third only gave an approximation" to the officinal proportion of the metal. "In some of the samples, it was evident that materials not known to the officinal formulæ had been intermixed." Among the samples tested were some, noticed in the druggist's catalogues as "*English mass in bladders*," bearing a label with the English arms, and simple title, "English blue mass."

The same gentleman ascertained that the powders of the roots and barks sold in the shops were largely adulterated in many instances, and that of these ipecacuanha was especially inert. "The roots, leaves, barks, seeds, and flowers," he found to be "generally far inferior in quality to the same articles kept for city sale by eastern druggists." The alkaloids and their salts, as quinia, strychnia, morphia, &c., manifested less of intentional fraud. Nitrate of silver was of various degrees of purity and of corresponding price. The vegetable extracts were exceedingly variable in quality and effects; and a like inferiority was noticed in the essential oils, as well as various other articles.

Although this is certainly an unfavourable account of the quality of the medicines sold in a large section of the country, it affords no evidence of an increase in the practice of adulterations since the foreign were excluded.

Extensive observations in Philadelphia, and some inquiry in the city of New York, by the chairman, have satisfied him that adulterations are looked upon with greater disfavour, and actually less practiced, than formerly. The same is believed to be true in Boston, and probably also of all parts of the country. In the latter city, a respectable druggist, in conversing on the subject with a member of

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the committee, said "that he did not believe that home adulterations had augmented since the passage of the law, and the reason he gave was, that the fact that Congress had passed such a law had drawn public attention to the whole subject in such a manner that home adulterations could not be practiced with so much impunity as formerly."

A practice seems to have grown up amongst druggists of respectable character, in many parts of the country, without intention of fraud, of making and vending some of the most important officinal articles of different grades. It is sufficient to mention two or three examples to show the gross impropriety and danger of the custom.

One of the least important of these is the spirit of nitric ether, which may be purchased wholesale at prices varying from eight cents the pound up to twenty-five, according to the demands of the purchaser. The chief constituent is water, with just as much alcohol and nitric ether as the price will warrant. Nitrate of silver is made and sold regularly by our best chemists of two grades, No. 1, or pure, and No. 2, containing but sixty per cent. nitrate of silver, the remainder being nitrate of potassa. In some instances, both in this country and in the cities of Europe, the article contains as much as seventy-five per cent. of the latter salt. There is no attempt at concealment in these cases; on the contrary, the adulteration is frankly stated in the advertisements of the chemists and druggists.

A still worse instance is the variable strength of laudanum. Many apothecaries, in making it, are not careful to follow the directions given in the Pharmacopœia. Instead of using *Turkey opium*, in *powder*, inferior varieties are employed; and too frequently, in the *recent state*, and consequently, containing a good deal of water, and therefore a less per centage of the alkaloids. Others are in the practice of making two kinds: one, of the strength directed in the Pharmacopœia, called *Physicians' Laudanum*, which is used in making up physicians' prescriptions; and the other, of about half that strength, either made from the dregs of opium remaining after preparing the officinal, alone, or with an additional quantity of the drug, but still causing the tincture to be of greatly reduced strength. The latter preparation is sold at the counter to the non-professional and country storekeepers, under the name of *Customers' Laudanum*. The dangerous consequences of this outrageous practice must, one would think, be apparent to any one of common understanding, and yet men of respectability are guilty of it continually. Numerous in-

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stances of death have occurred, mostly in children, from the use of the stronger article, in the doses to which the individuals had been accustomed of laudanum procured from other apothecaries. Such consequences must inevitably result where preparations differing greatly in their properties are sold under a common name.

Great complaint is made, and with justice, of the frequent adulteration of powdered drugs. Retail apothecaries, physicians, and country storekeepers generally buy their supplies of these from the wholesale druggists in the large cities; and whatever adulterations are perpetrated occur, therefore, either with the drug merchants or those who follow the business of grinding and powdering. Considerable inquiry has led to the conviction, however, that, in the majority of instances, when the quality is bad, it is in consequence of the crude article, from which the powder is made, being deteriorated or of inferior quality, rather than from the admixture of foreign substances.

Generally, the wholesale druggists purchase their roots, barks, &c., in the crude state, and have them ground under their own direction, and, consequently, have the articles pure. But sometimes dealers even on a large scale are not so scrupulous; at least, they manifest no repugnance to providing low priced articles for those whose only care is to buy them cheap.

An amusing anecdote was told to one of the committee of a druggist in a large city who sent some ipecacuanha to be ground. Not being returned as expected, an explanation was asked, when he was reminded that *he had not sent the liquorice root!* In another case, a grocer, when bargaining for making cream of tartar out of the crystals, inquired of the grinder *how many barrels of flour* he should send! Although the grinders and powderers probably mix only the substances sent to them for the purpose by those who employ them, they are, at least some of them, but too willing instruments in the detestable business. One of them avowed to a member of the committee that he had no scruples on the subject; that it was his business to grind what was sent to him; and that the responsibility in regard to the objects for which they were to be employed did not belong to him. With the knowledge of these things, frankly admitted, it is incumbent on the members of our profession to look more closely to the quality of their powdered drugs, and either purchase them in the crude state, or procure them of druggists of undoubted respectability, without expecting, however, that the manufactured article will be supplied to them at less than the cost of the crude material.

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A brief account of the adulterations still to be found in the market will afford some idea of the present extent of the evil.

1st. *Of Roots.*

Jalap, in the root, is abundant and of good quality, and, when mixed with bryony and other roots, is easily distinguished; in powder, it is largely adulterated, mostly with the spurious or false jalap roots, or, as the committee have ascertained, with *liquorice root.* In several samples purchased from respectable drug houses in New York, by some of the physicians in Virginia, the odour and taste of the liquorice were very perceptible, and treble the usual quantity was required to produce catharsis.

Rhubarb.—Excellent samples, both of Turkey and East India rhubarb, may be found in most of our drug shops; but, in powder, it is greatly adulterated. Either the mouldy and spoiled pieces in good lots are picked out for the purpose, or the English is ground with small portions of the better quality, or else alone and coloured with turmeric, to give it the proper hue.

Ipecacuanha, in the root, is readily known by its peculiar annulated appearance, and is not apt to be adulterated in that state; but, in the condition of powder, it is extensively adulterated. Frequently it consists of only ten or fifteen per cent. of genuine ipecacuanha, mixed with liquorice or sarsaparilla. Sometimes, the powder of one of these, mostly the sarsaparilla, with tartrate of antimony and potassa, without a particle of ipecacuanha, is sold under that name. This is a vile fraud, and one liable to produce dangerous consequences.

Peruvian bark.—In the state of powder, the Carthagena and other inferior barks, either alone, or in large proportion, are regularly sold for the best Calisaya and crown barks. These of course contain little or none of the valuable alkaloids.

The powders of *ginger and mustard* are very rarely sold in the pure state.

Extracts.—In former years, it was difficult to get the various vegetable extracts of good quality, sometimes from their fraudulent adulteration, but more frequently, perhaps, from lack of skill and care in their preparation. Scarcely any could be relied on except some imported from Germany, and Apothecaries' Hall, in London. Now, however, we have them prepared of excellent quality at home, particularly by some of the principal druggists of Philadelphia, and by Messrs. Tilden & Co. of New York. The latter have embarked largely in the business, and manufacture them of very fair quality. Still, the committee hear much complaint from various parts of the country of the inefficiency of this class of remedies.

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Extract of colocynth is extensively adulterated. In some instances, it is alleged, not a particle of colocynth is employed in making it, but the whole consists of the inferior qualities of aloes, with some other worthless ingredients.

Gums and Gum-resins.—Gum Senegal is sometimes bleached and sold as gum acacia, alone or mixed; sometimes in lumps, but more commonly in powder; and occasionally wheat flour and arrowroot are mixed with the powdered gum in large proportion.

Scammony.—This drug is almost universally adulterated. There is no reason for believing that this is done in the United States, and we may therefore hope, when the stock at present on hand is exhausted, that the inspection law will guard us from further imposition. Of the samples examined, instead of from sixty to ninety per cent. of resin, many contained but fifteen or twenty, the remainder being made up of chalk, starch, &c. &c. Some specimens abounded in fecula, and were actually worm-eaten. The sole reason why we have not scammony of good quality in our market arises from the penurious disposition, too commonly evinced in the purchase of medicines, of buying at low prices. Virgin scammony readily commands six to eight dollars a pound, while the trash usually found in the shops is bought for two and a half or three dollars! In fact, very little of good quality has been in the markets of this country for the last twenty or thirty years, notwithstanding it is to be had at all times in the large cities of Europe by paying a fair price for it.

Senna.—In this country, we are chiefly supplied with the Tripoli and India varieties of senna. The first of these, although much broken and unsightly, operates very well, and therefore should not be rejected. Alexandria or Egyptian senna is exceedingly rare, although the leaflets of several kinds are frequently sold under that name.

Castor oil, which is a product of our own country, and abundant and cheap, is, nevertheless, occasionally adulterated with lard oil. This, although not positively injurious, increases the dose, and is fraudulent.

Croton oil, being an expensive article, and readily adulterated, is often found impure and comparatively inert. The adulteration generally consists in mixing with it a large proportion either of olive oil or oil of almonds. Both the ingredients being fixed vegetable oils, the fraud is only discovered by the want of activity of the medicine in the usual dose, as well as when applied to the skin.

The *essential oils* are, nearly all of them, frequently adulterated.

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The process is to mix a small portion of pure oil with alcohol, oil of turpentine, &c. Lately, *it is said*, a very ingenious method has been adopted of mixing castor oil with chloric ether in such proportions as to make the fluid of the specific gravity of the particular oil to be sophisticated, and then adding a fourth of the genuine oil to give to the mixture the peculiar odour and taste required.

Cod-liver oil, which has become a favourite of late, is extensively adulterated with other fish oils. In fact, hardly a tenth, it is believed, of what is sold under that name, is genuine, being either refined whale or sea elephant oil.

Copaiba is an article which is likewise much adulterated; generally, by mixing it in various proportions with Venice turpentine, oil of turpentine, or flax-seed oil mixed with a portion of oil of turpentine. It is surprising that an article so cheap, and when the fraud can be so readily detected by merely solidifying the copaiba in the compound, should be adulterated; but there is no doubt of the fact.

Cantharides, in *powder*, are frequently adulterated with some of our native beetles; but, in other instances, with inert substances, with the addition of black pepper and euphorbium, to give activity.

Musk is rarely sold entirely genuine. That which is generally vended under this name is a mixture, in variable proportions, of dried blood with catechu, and even chocolate, scented with a little pure musk. Of course, such a preparation is quite inert.

Bitartrate of potassa, besides the tartrate of lime which it is naturally associated with in variable proportions, is adulterated by the admixture of sulphate of lime, alum, and wheat flour; and in this state it is sold extensively by grocers in the Eastern cities to bakers, to mix with bread.

Nitrate of potassa is adulterated with crystallized Turks Island salt. A provision merchant in Baltimore mentioned to a member of the committee that he found it required one-third more of what he purchased in that place, to colour his pork, than of some which he procured from London. The difference he ascribed to the common salt mixed with it.

Spirit of nitric ether, as already remarked, is adulterated with alcohol and water, and frequently with water alone, and may be purchased at any price above that of water itself. In some places, the officinal, or "*first quality*," as it is called, is never dispensed except when specially called for, not even in prescriptions.

Iodine.—This being in great demand from its use in the arts as well as in medicine, and withal an expensive article, is very com-

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monly adulterated. The substances most employed for the purpose are plumbago, charcoal, and oxide of manganese. An excess of water, too, amounting sometimes to fifteen or twenty per cent., is often met with, and is, doubtless, purposely added to increase its weight, especially when charcoal is present. For manufacturing objects, these impurities are of little moment, as the chemists who buy it are good judges, and know how to regulate both their purchases and their processes to meet the case; but for medicinal purposes, it is of more consequence; and hence, before using it, it should always be resublimed to free it from impurities.

The *salts of iodine* are frequently imperfect from bad manufacture; but it is presumed they are seldom adulterated, except the *iodide of potassium*, in regard to which there is more fraud at the present time than almost any other article. From its general employment for all the objects for which iodine is administered, and its extensive demand in the arts, it has become an article of great request; hence, and from the facility with which it is adulterated, its purity cannot be depended on, unless procured from some of our best manufacturing chemists, or druggists who obtain it directly from them. The best specimens generally contain from five to ten per cent. of carbonate of potassa, particularly if much care is not taken in its manufacture; and in this proportion its crystalline character is not affected. But frequently the proportion is so great as to render it certain that fraud is intended. Dr. Christison says he has "sometimes found 74.5 per cent. of carbonate and 16 of water along with it, so that there was only 9.5 per cent. of pure salt." It is sometimes adulterated too with nitrate of potassa, and the chlorides of potassium and sodium.

Great frauds are perpetrated in the *preparations of mercury*.

Blue pill, which should contain *one-third mercury*, is openly sold by wholesale druggists having only *one-fourth;* and in some instances it scarcely contains any mercury at all, its place being supplied by various foreign matters, as plumbago, animal charcoal, &c.; and the same remarks apply to mercurial ointment.

Red oxide of mercury is frequently adulterated with *red oxide of lead*, in large proportion; *ammoniated mercury*, or white precipitate, with carbonate of lead and sulphate of lime.

Calomel is reported by some of the physicians in the Western States to be adulterated with corrosive sublimate; when this happens, it is owing to its not having been well washed, which, it is presumed, is seldom the case. The manufacture of it in all its details is so

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well understood, and the tests of its purity are so simple and certain, that the most inexcusable carelessness must exist where it is sent forth contaminated in this way. It is also said to be sometimes adulterated with the subnitrate of bismuth. Generally, however, the calomel of commerce is admitted to be good.

Hydrargyrum cum cretâ.—This preparation, made in the ordinary way by simple trituration, has always been regarded as a very certain and mild medicine, and especially adapted to irritable conditions of the stomach and bowels, as in the summer complaints of children. The process for making it being a tedious one, especially when performed by the hand, many experiments have been tried to facilitate the extinguishment of the globules of the metal without altering the character of the preparation. By Dr. Stewart, of Baltimore, it was proposed, a few years ago, to accomplish this by triturating the mercury first with resin, and then with the chalk, by which means considerable time and labour are saved. The resin is removed, when the trituration is completed by washing the powder with alcohol. This process, having received the sanction of some of our best pharmaceutic chemists, has been practised to a considerable extent, without any suspicion, until lately, that an important change occurs in the character of the preparation, and one liable to produce the most serious consequences. In the *American Journal of Pharmacy* for April, 1850, there is an interesting article on this subject by Professor Procter, of the Philadelphia College of Pharmacy, from which we derive the following information:—

Mr. Procter, having observed a reddish tinge in a portion of the hyd. cum cretâ, prepared by this process, about a year and a half previously, was struck with the departure of the medicine from the usually bluish colour; and, recollecting that several instances had occurred, within a few years back, in Philadelphia and Baltimore, of unlooked-for effects following its exhibition, it occurred to him that "some unknown circumstances had caused the peroxidation of the mercury." To determine this point, he subjected the preparation to analysis, with the following results:—

	Per cent.	
Deutoxide of mercury,	22.80	equal to 21.25 of metal.
Protoxide of mercury,	4.21	4.05
Metallic mercury,	10.83	10.83

Mr. Procter, with such evidence before his eyes, very properly rejects the process of Dr. Stewart, and suggests the inquiry, whether

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a similar change may not, although more gradually, take place in the preparation made in the ordinary way. So large a per centage of deutoxide as 22.80 very well accounts for the severe effects which have been found, in some instances, to follow the exhibition of this article, and it is worthy of attention to discover whether any such change occurs in that made by the common process. If it shall be found that it takes place ever so gradually or slowly, that mode of preparing mercury must be abandoned entirely, or it must be done in small quantities and at short periods.

In the blue mass, which is an analogous preparation, the saccharine matter, it is presumable, exercises a preservative influence over the preparation.

Opium.—Large quantities of inferior and adulterated opium have been excluded from our market, as already mentioned, by the operation of the present law of Congress, which would otherwise have been imposed upon us; but in place of it, adulterations to some extent have been noticed in morphia and its salts. It is not improbable, however, that these are attributable to want of care in their preparation.

The *valerianates*, of late years, have been the subjects of considerable attention, and, being highly expensive, they have also become objects of adulteration. It is asserted, by good authority, that the articles of this class generally sold in the shops consist merely of the bases, scented with a little of the oil of valerian.

It has always been remarked that the most costly medicines, and those in great demand, are the most commonly adulterated. *Sulphate of quinia* comes under both these heads, and accordingly complaints are made continually, especially in the South and West, where it is most required, of its inefficiency and uncertainty of effect. There can be no doubt that the fault is generally attributable to its adulteration. Various articles are employed for this purpose. Sometimes the less costly alkaloids, as salicine; but most generally mannite, from its cheapness, and the strong resemblance it bears to the beautiful, needle-like crystals of the sulphate. Very recently, a large drug-house in Boston, of unsullied character, sold five hundred ounces, to be sent to California, and, after it had been shipped, it was ascertained that it was adulterated with twenty-five per cent. of mannite. The article bore the label of a distinguished French chemist, and is believed to have been pure when imported, but, in its progress through New York, it is supposed to have *imbibed* the mannite by a kind of *endosmose!* That there is no *exosmose* in these cases is pretty evident, for the quantity is

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always increased, as must be inferred from the price growing less! Thus, sulphate of quinia sells at a price varying from four dollars an ounce, at which it is sold by the manufacturers, to two dollars. At the latter rate, it can be purchased of peddlers, small retailers, and a certain class of large drug-dealers; and this never could be afforded, if it were not for this remarkable property of attracting foreign substances. It may be well to mention that the best yellow bark employed for the manufacture of the article sells in large quantities at a dollar and fifty cents, and upwards, the pound, and that, by the best ascertained process, it requires two pounds, at the least, to obtain an ounce of the salt. With a knowledge of these facts, can there be any mystery in the accounts we frequently hear of enormous doses being given with impunity?

Extensive inquiries among physicians, manufacturing chemists, and druggists have led to the following conclusions:—

1st. That the wholesale druggists in the large cities, equally in the South and West as in the Eastern States, who are not specially engaged in selling nostrums, either as proprietors or agents, conduct their business on fair and honourable principles. As a general rule, they buy their choice chemicals from those who manufacture them, and either import other articles, or get them directly from those who do, and are always disposed to supply good articles to customers who are willing to pay a remunerating price. At the same time, many of this class keep inferior articles, which they dispose of for a corresponding price to physicians and storekeepers who insist on buying at reduced rates.

2d. That the inferior and adulterated drugs are chiefly disposed of in the southern and western portions of the United States—to the physicians and people residing in the small towns and villages, and sparsely populated districts. That in the large cities, particularly in the Atlantic States, bad drugs are, as a very general rule, dispensed only by inferior apothecaries.

There is ground to hope that we shall hereafter be protected from the introduction of spurious drugs from abroad; and, if effectual means can be devised to prevent their sophistication and sale at home, a great boon will be conferred on the community. It is not probable that this can be fully accomplished; but the evil may certainly be very much limited. How shall this be done? Various plans have been suggested, of which the following may be considered as the most important:—

1st. To apply to the State legislatures to pass laws authorizing the

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appointment of inspectors, and making it a penal offence to deal in adulterated drugs and medicines.

It is difficult to understand why fraud in the manufacture and sale of medicines, which have so important an influence on the health and lives of the people, should not be punished with the same severity as debasing and counterfeiting money, which merely affects their pecuniary interests. The past history of State legislation, in relation to the practice of medicine, affords little hope, however, that any salutary laws on this subject can be procured in many or all of the States of the Union; and without a general concurrence of action, no good will be accomplished. It is to the members of our own profession, therefore, in conjunction with the respectable druggists and apothecaries, that we must look for whatever reformation is to be accomplished.

2dly. It has been suggested that physicians should feel it to be their duty to inspect the medicines in the drug stores from which they are in the habit of obtaining supplies for themselves or their patients. This would exercise a wholesome influence, if submitted to by the apothecary, and frequently performed by the physician, neither of which, however, is very probable. A more effectual plan, because of its being more likely to be carried out, would be for the various State medical societies annually to appoint a board of examiners, who should procure samples of different articles from the drug stores within their limits, analyze and otherwise examine them, and publish the results. If this were impartially and skilfully done, it would excite the ambition of the meritorious and control the less scrupulous.

Properly to carry out this plan, as well as for their own security in making purchases, physicians should become better acquainted with the physical characters of drugs, and be able, with the assistance of a good treatise on chemistry, to analyze the various chemical articles recognized in the Pharmacopœia. The requisite apparatus for this purpose, which need not be costly, should be in every physician's office, and good specimens of the various articles of the materia medica, with samples of the inferior or adulterated. This is especially desirable in offices into which students of medicine are received.

3dly. The co-operation of the druggists and apothecaries in discountenancing and putting down the traffic in inferior and adulterated medicines should be solicited. For this purpose, they should be encouraged to institute pharmaceutical associations in every con-

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siderable town throughout the country, which, more than anything else, would tend to elevate the professional and moral standing of their craft. Men who are in the habit of meeting together for laudable purposes are far less liable to plunge into bad practices than the isolated being whose better feelings are not warmed by association. The establishment of such societies has always been salutary. In Philadelphia, the institution of the College of Pharmacy, with its cabinets, its lectures, and excellent quarterly Journal, which is published regularly, has raised the character of the apothecaries to an enviable height; and in the city of New York, where a like organization has been more recently formed, similar effects are observable.

4thly. In making their purchases of medicines, physicians should be willing to pay fair prices, and be careful to procure them only from the most respectable druggists. Men of this character, selling in large quantities, never demand exorbitant profits, and it is not to be expected that they will sell good articles at a loss.

A large amount of the inferior qualities of drugs passes through the hands of country storekeepers, who deal in dry goods, groceries, hardware, &c. With people who are such indifferent judges, articles are selected that afford the largest profits, and the quality is pretty certain not to exceed the price.

A class, worse even than this, of whom to purchase medicines, are druggists whose advertisements are chiefly filled with nostrums and secret preparations. They who deal with men of this description, besides exposing themselves to the risk, amounting almost to certainty, of being cheated, may be regarded as active supporters of the worst kinds of quackery.

In conclusion, the committee beg leave to offer the following Resolutions for the consideration of the Association:—

1st. *Resolved*, That the various State and local medical societies be requested annually to appoint boards of examiners, whose duty it shall be to procure specimens of drugs from the stores within their limits, for examination, and report upon the same to their respective societies, at least once in every year.

2dly. *Resolved*, That the respectable druggists and apothecaries throughout the United States be requested to take active measures for suppressing the fabrication and sale of inferior and adulterated drugs, and that it be respectfully suggested to them, whenever practicable, to form themselves into societies or colleges for the promotion of pharmaceutical knowledge and general improvement in their profession.

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3dly. *Resolved*, That a committee be appointed, consisting of one member from each State here represented, whose duty it shall be to collect information in regard to adulterated and spurious drugs, and report the same at the next meeting of the Association.

R. M. HUSTON, *Chairman.*

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K.

REPORT OF THE COMMITTEE ON INDIGENOUS MEDICAL BOTANY.

THE Chairman of the Committee on Indigenous Botany and Materia Medica, appointed by this Association at its annual meeting in Boston, in 1849, would respectfully report :—

After the very able report of the chairman of the committee, Dr. N. S. Davis, for the years 1847 and 1848, and the very accurate, copious, and scientific report of Dr. Francis P. Porcher, for 1848, on the "Indigenous Medical Plants of South Carolina," and the copious list of the "Indigenous Medical Botany of Massachusetts," by Dr. Stephen W. Williams, the whole ground seemed to have been preoccupied, so far as knowledge was to be obtained from books in this country and Europe on this subject. From the above facts, it was thought desirable that the personal experience of the committee should be given on the virtues of a few individual plants not before enumerated, or their medicinal effects only partially described. This has been the plan adopted by the chairman of the committee.

ELI IVES, *Chairman.*

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K.—1.

DR. E. IVES' *Experience on the Virtues of certain Plants.*

THE following remarks on the virtues of a few plants are the result of more than forty years' experience:—

1. *Isnardia palustris*, L. } Water purslane. Phthisic weed.
Ludwigia, Ell. }

A creeping or floating plant, very common on the margin of stagnant ponds and ditches. This plant has been used in New Haven and vicinity for half a century, for asthma and chronic cough. It possesses some astringency, and its taste is not unlike that of black tea. It was used nearly fifty years since in a case of pulmonary consumption, with an extensive ulcer in one lobe of the lungs. It was drunk freely in the quantity of a pint of the infusion in twenty-four hours. An infusion was made by adding to ℥ss of the dried plant a pint of boiling water. It is a remedy which is thought to be peculiarly adapted to relieve paroxysms of asthma. The writer of this article has used the isnardia more than forty years, and frequently with the very best effect, in paroxysms of asthma. It has often relieved when the powerful narcotics have failed, or been worn out by continued use. In chronic cough arising from a morbid condition of the mucous membranes of the larynx and pharynx, or from a morbid condition of the liver or viscera of the abdomen, it has proved a valuable remedy. It has been recently used in catarrhal fever with decidedly good effect.

2. *Senecio aureus*, L. Wild valerian.

This plant is very abundant in moist meadows, and conspicuous by its yellow, composite flowers. The entire plant is fragrant—the root particularly so. It is an aromatic nervine, used to allay nervous irritation of the system generally; more particularly, for sympathetic and irritative cough. A cough arising from an affection of the liver has been removed speedily and permanently by the use of the *Senecio*

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aureus. The root possesses the virtues of the plant in an eminent degree. The entire plant is commonly used. Half an ounce of the dried plant is to be infused in a pint of boiling-water, and given freely.

3. The *Orchises* were condemned by Cullen, and by his authority rejected from the Materia Medica. He probably used an article which had become inert by long keeping or bad preservation. Some of the *Orchideæ* unquestionably possess medicinal as well as sensible properties, as every one will be convinced who tries them.

4. *Neottia pubescens*, Pursh. } Cancer weed.
Goodyera, Brown. }

This plant has the same sensible properties, and is not to be distinguished from the Cypripediums by the taste and smell. It is called cancer weed and canker weed. It has been used for cancers, lupus, and other ill-conditioned ulcers with some benefit, palliating when it did not cure. The recent leaves and root are bruised and applied to the part affected. The whole plant is dried, pulverized, and given in teaspoonful doses in nervous and convulsive diseases. It quiets irritation of the nervous system, and produces sleep.

5. *Cypripedium pubescens*, *spectabile*, and *humile*. Ladies' slipper. Moccason plant.

The pubescens is called the yellow spider plant. To me they appear identical in their effect on the constitution. I consider the pubescens the most powerful. I have used the three species in a variety of nervous diseases, and have known them to relieve epilepsy. A hypochondriacal patient who could not sleep, and was not benefited by any preparation of opium, never failed of sound rest after taking twelve grains of the powdered root of the cypripedium pubescens. In certain neuralgic affections, with morbid sensibility of the whole nervous system, it has produced a beneficial effect. A lady, from close application to very delicate painting, became so much affected in her eyes that she could not fix them on any object without excruciating pain. The whole nervous system was at the same time morbidly sensitive. She took the various narcotics, as strychnos, stramonium, and hyoscyamus, without any material benefit, but was very much relieved by taking fifteen grains of this cypripedium three times a-day. The remedy was continued for months. The health of this patient was restored after a period of two years by the use of this remedy and a voyage across the Atlantic.

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6. *Cornus circinata*, Linn. Her. Comel. Mountain willow. Moosewood. Dogwood.

The bark of this shrub was first used in New Haven, in the year 1795. A stranger observed that he could give a bark that would relieve diarrhœa connected with disease of the liver, if the physician would consent to try it. That symptom of the disease which was wearing out the patient was removed by this remedy. Dr. Eneas Monson,* who was at the head of the profession at that time in New Haven, was much pleased by the happy effect of the medicine.

The article was not used again until 1803, when Dr. Monson communicated the facts relating to this article of the Materia Medica to the writer, by whom it was found upon Trap Rock Mountains. It was thoroughly tried and approbated, and has been used by the physicians of Connecticut since that time.

Cornus florida. The Cornus florida was introduced into practice before the Cornus circinata. At this time (1850), one hundred times as much of the circinata as of the florida is used by the physicians of this vicinity. The Cornus sericea in its medicinal effects resembles the Cornus circinata more than any other species. The Cornus alternifolia is often mistaken for the circinata, but is easily distinguished—the circinata having cordate opposite leaves, downy on the under side, with punctate glands on the stems. The alternifolia has alternate branches and leaves—the glands linear. The odor of the recent bark of the alternifolia is fetid, that of the circinata aromatic. The circinati has its locality on Trap Rock, mostly near the summit, and on the north or west side of the mountains; is rarely found in granite regions. The alternifolia is found at the foot of Trap Rock Mountains, and on alluvial soil. The Cornus circinata is used in the form of decoction in the proportion of ℥ss of the bark to a pint of boiling water. The powdered bark is also given in doses of from five to ten grains. It does not produce stricture like the cinchona. It acts particularly on the mucous membranes, producing healthy secretions like the salicin, with the additional power of astringency. The circinati is the most efficient remedy we possess for the cure of chronic diarrhœa. It has been found very beneficial in that diarrhœa which is common in the East and West Indies, and called by the sailors *flux*. This disease,

* Dr. Eneas Monson, who died in 1826 at the advanced age of ninety-two years, was a correspondent of Baron Stork, of Vienna. He introduced the Conium maculatum into this country. He received the seeds in a letter from the Baron. Dr. Monson was a scholar, and, in the knowledge of Materia Medica, had not a superior on this or the other side of the Atlantic.

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of one or two years' standing, has often been removed by this remedy alone, taken in the quantity of one or two pints of the strong infusion in the twenty-four hours. It is also used in the form of tincture with serpentaria and orange-peel. It is useful in chronic debility of the stomach when other astringent and bitter tonics oppress. It produces an agreeable sensation in the stomach and increases the powers of digestion. The powder of this Cornus is very beneficial in cases of sore mouth with sloughing of the gums. Apply ten grains of the powder to the gums three or four times a-day: applied in a similar manner in cases of mercurial salivation. It is much used in infusion in the latter stages of cholera infantum. It is readily taken by children, with the addition of a little milk.

7. *Epigea repens*, Linn. Trailing arbutus. Ground laurel. May-flower.

An evergreen trailing plant, with oval and cordate leaves, common on hills covered with wood.

Nat. order.—Ericaceæ.

This plant possesses properties allied to those of the uva ursi—moderately astringent and diuretic, acting in an especial manner on the kidneys and the membrane of the bladder and urethra. It is thought to have emmenagogue properties in cases of amenorrhœa occurring in scrofulous constitutions. It has been used with advantage in such cases. It has been used in those cases in which the uva ursi and buchu were indicated. When the uva ursi and buchu have produced unpleasant symptoms, in cases of irritated action in the bladder and urethra, the decoction of the leaves of the trailing arbutus has produced an alleviation of the symptoms and sometimes an entire removal of the disease. A female of strumous constitution, with chronic inflammation in the pelvic viscera, which terminated in suppuration affecting the bladder and urethra, with morbid secretions accompanied with much pain, and who took the uva ursi and diosma (buchu) with no benefit, indeed with aggravation, of the symptoms, was very much benefited by a free use of the decoction of the May-flower. It was grateful to the taste of the patient. A patient of Dr. Knight was attacked with deep-seated inflammation in the perineum threatening suppuration. The inflammation extended to the kidneys, bladder, and urethra, with morbid secretions. The urine was very highly charged with albumen. A decoction of the Epigea was given, of the strength of ʒij to half a pint of water, in doses of a wineglassful every two hours. In twenty-four hours, there was no

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albumen in the urine. The Epigea was omitted, and in twenty-four hours the albumen again appeared. The Epigea was again administered with perfect relief, and continued without any return of the albuminuria. In this case, the prostate gland and neck of the bladder had been so much affected as to render necessary the use of the catheter. It may be proper to state that the inflammation had been subdued by appropriate treatment before the administration of the Epigea, and the albuminuria appeared as a sequel of the disease. This plant is recommended to the notice of the society as a remedy peculiarly adapted for the cure of Bright's disease of the kidneys (morbus Brightii), or any disease accompanied with albuminous urine. The writer of these remarks, several years since, recommended to Dr. Beardsley, of North Bradford, Connecticut, the use of the Epigea repens in chronic diseases of the pelvic viscera in females. From an experience of several years in its use, Dr. Beardsley expresses much satisfaction at its good effects. The following cases were communicated to the chairman of your committee by Dr. David A. Tyler, of this city, who has paid particular attention to the investigation of the indigenous materia medica. In the winter of 1847–8, I attended a girl about five years of age, with general anasarca and symptoms of hydrothorax, of unusual severity and intractability, following a slight attack of scarlatina, for which I used a great variety of diuretics—the Asclepias Syriaca, Solanum dulcamara, digitalis, calomel, squills, seneka, &c., and at last obtained, as I thought, very efficient aid from the free use of Epigea repens, resulting in recovery. In February, 1849, in a case of general anasarca following scarlatina in a girl three years of age, I used the Epigea repens, as I supposed, with the same favourable results. This case was fast recovering, with a prospect of a perfect cure, if the medicine had been continued; but she fell into the hands of one of those infinitesimal beings—a disciple of Hahnemann. I have used it in other cases requiring diuretics, and always, as I supposed, with good effects. In the cases above mentioned, I took no notes at the time, but, according to my recollection, the Epigea was of decided advantage. When the particular state of the system and grade of action to which it is appropriate are accurately known, it is believed that this plant will be esteemed a valuable remedy in albuminous diseases.

A case of anasarca and ascites, with cough, was treated with digitalis, squills, terebinthinates, asclepias, and spirit of nitrous ether, without benefit. The urine was found to contain a great quantity of albumen. The patient was put upon the free use of the decoction

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of Epigea in the proportion of ℥i of the dried leaves to a pint of water, which quantity was given daily. All other medicines were laid aside. The patient soon became satisfied of the benefit of the remedy. The albumen soon disappeared from the urine, and the patient recovered.

ELI IVES.

New Haven, *August*, 1850.

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K.—2.

Extracts from DR. BARRATT'S *Notes on the Indigenous Plants of Abbeville District, S. C.*

1. *Sysyrinchium anceps.*
   " *mucronatum.* } Blue-eyed grass.

The first flowers in March and May; the latter in July and August. Grows in dry soils. Properties antiscorbutic and tonic.

2. *Viburnum Prunifolium.* Black haw. Tree ten to twenty feet high; grows in moist soils; flowers in April and May. Properties, a decoction of the bark is a popular remedy in uterine hemorrhages.

3. *Yucca filamentosa.* Bear grass. Grows in poor soils; flowers in August. This plant has some reputation for the cure of gonorrhœa given in the form of tincture. The tincture is made by steeping ℥viij of the dried root in a gallon of whisky. Dose, a wine-glassful taken three times a-day.

The leaves have been proposed as a substitute for the hemp.

4. *Martynea proboscidea.* Annual. Stem grows from one to two feet high. Grows on rich soils, gradually travelling to the upper country; flowers in June. The pods of this plant are said to be used while green for pickling. The flowers have a somewhat sweet narcotic smell.

5. *Cotyledon umbilicatus vel umbilicus.*

It is thus described by Thomas Salter, F. L. S., F. R. C. S., Fellow of the Royal Medical and Chirurgical Society. *London Med. Gazette*, 1849. By Withering it is stated to be a rare plant. It inhabits old walls and rocks, growing in the neighbourhood of Poole, England, on dry sandy banks. *Linnean arrangement.*—Decandria; pentagynia. *Nat. order.*—Crassulaceæ.

Stem six inches high; leaves succulent, fleshy, and pillate; flowers

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in a spike accumulated on one perpendicular flower-stalk in June and July. Corolla bell-shaped, of a pale yellow colour. The stem or flower-stalk is somewhat purplish, with a few small leaves at its lower part.

The expressed juice of the plant is employed in medicine, the leaves affording it most abundantly. The properties of this plant have not been noticed by Cullen, Tournefort, or Linnæus, nor by De Candolle or Pritchard.

To the older authors we must refer for the principal uses to which it has been applied. Parkinson, in his *Theatrium Botanicum*, published in 1640, has described and figured it. Its qualities, he says, are moist and cooling; somewhat astringent, and a little bitter; useful in all inflammations and unnatural heats; healing to the kidneys in calculus and stone, and in ulcerations of the same. It is useful in dropsies and hemorrhoid, in pains of the bowels, and in bloody flux. Elizabeth Bakewell, in her Herbal, published in 1737, and dedicated to Dr. Meade, gives an accurate figure of the plant, and describes it as cooling, good in disease of the liver, as diuretic; also useful in erysipelas, piles, chilblains, &c. The first by whom it was noticed in epilepsy, in which disease it has recently been highly recommended, seems to have been the Rev. John Wesley, in an old American magazine. A lady, from reading the article, was induced to recommend it to a patient whose case is reported by Mr. Saltar. The disease had existed fourteen years, had been treated by an eminent metropolitan surgeon, in whose house she resided, and where of course she had every advantage that medical skill and experience could afford. Physicians of the highest character were consulted, and various modes of treatment were put in force, but all alike failed. The paroxysms continued to return at intervals of from a month to six weeks for a period of twelve years. At length she was strongly urged, by the lady referred to, to make trial of the cotyledon umbilicatus. Two teaspoonfuls of the expressed juice were taken two or three times a-day, and the treatment continued during the season the plant would be produced, from early in the spring to late in the fall. From the time the patient commenced the use of the remedy, she has had no return of the disease, not a single paroxysm; and with the loss of the epilepsy every vestige of disease, both physical and moral, has disappeared. It is proper to remark that change had been made in the patient's habits and mode of living, this always having been regular; nor had any other medicine been given after the cotyledon had been resorted to. To suppose the termina-

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tion of the disease on taking the cotyledon a mere coincidence is a supposition beyond the ordinary course of probabilities, more especially as this was one of those cases not likely to cease spontaneously, or to be cured by the unassisted operations of nature. Organic changes, it is presumable, would have taken place from so long continuance of the disease. This was exhibited in the changed complexion of the patient, which, from being fair and ruddy, had become sallow and opaque, and the temper, from being remarkably amiable, was irritable and unsettled. Other trials have been made of this article. Dr. Jos. Buller, in the same journal, relates two cases where the disease had existed six years, the paroxysms returning once or twice in a week, or once a fortnight; no remedy had ever been of the slightest use, and the patient had been under the care of several physicians. By the use of this article, the paroxysms were at first aggravated, then gradually diminished in number and violence, until they were simply short fits of faintness without loss of consciousness. It is further added that many physicians of eminence are now trying it, so that its real merits are likely to be examined, and the kind of cases in which it is most efficacious, the doses, and their effects, more strictly determined. Dr. Todd, in his Lumleian Lectures for 1849, on the Pathology and Treatment of Convulsive Diseases, thinks we ought not to abandon the search for a specific in epilepsy, and is disposed to give a fair trial to the juice of the cotyledon umbilicatus, to whose virtues, he says, several experienced practitioners have recently borne testimony.—*British and For. Med. and Chirurg. Rev.*, Jan. 1850.

Note A.—In Torrey and Gray's Flora of N. America, the genus Cotyledon is synonymous with *Echeonia*, natural family, *Crassulaceæ*. The habitation of this genus is California.

Note B.—When the recent plant cannot be obtained, a fluid extract is prepared, which appears to possess all the properties of the fresh juice in a concentrated form. The dose is ʒss two or three times a-day.

6. *Gossypium herbaceum.* Cotton.

For the virtues and uses of this plant, already enumerated in the valuable report on the Indigenous Plants of South Carolina, by Dr Francis P. Porcher, let me add its use in intermittent fevers. The information is derived from Dr. Wm. K. Davis, of Monticello, Fairfield District, S. C., in reply to inquiries made by him as to the medicinal properties and uses of cotton seed tea in some of the forms

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of fever. Its use originated with a planter in Newbury District, who had used it freely among his negroes, and uniformly with success. I have never failed, says he, to cure with a single dose of it, where large doses of quinine had failed. When the patient has been ill of third-day fever and ague, and for months, in *such* cases success has followed its use. Prof. Shepard's analysis of cotton seed shows it to be composed of many inorganic matters, some of which may possess great medicinal virtues in that disease. The following is the mode of using it: After having given a dose of calomel the day or night previous to an expected attack, followed by castor oil in time to produce a cathartic effect before administering the tea, you put a pint of cotton seed with a quart of water in a vessel, and boil it until half the water has evaporated. Put the patient in bed an hour or two before the time for the ague, and give him a gill of the warm tea—repeating the dose every twenty or thirty minutes, until the time for the attack has passed. It should not be given during the chill or fever for reasons you will doubtless comprehend. I repeat I have never failed to cure the most obstinate cases, and several among my own negroes, when the usual medicinal means have entirely failed. Upon the authority of his brother, Dr. Wm. K. Davis, it is stated that the facts embodied in the above statement are not to be denied. Whilst most of us, he observes, adhere to the good old way, in intermittents, of relying upon quinine, still it would be interesting to know if the virtues of the cotton-seed tea in stopping intermittent fevers depend upon any principles in the seed, or upon accidental causes, as the warmth of the water in which it was boiled. Without advancing any opinion in reference to its exhibition, whether for or against, I present it to the notice of the profession as a remedial agent, becoming popular in domestic practice in the section of country mentioned, and, therefore, claiming investigation on the part of the medical profession.

7. *Anda gomnesii.* A plant native of Brazil. *Nat. Ord.*—Euphorbiaceæ. *Class and order.*—Monœcia; monadelphia.

The purgative properties of this plant depend upon the seeds and the oil expressed from them. For this purpose, it is employed by the inhabitants of Brazil. Dr. Ure has administered the oil in several cases, and gives the following account of its effects. He says, it may be observed that the average dose of the oil of anda was twenty grs. on sugar. It offered nothing unpleasant to the taste, produced none of the heat in the throat which Croton oil produces,

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and seldom occasions nausea or griping. It operated within a period of two hours, although in one or two instances I have known it act in half an hour after its exhibition. In obviating costiveness, this article has been brought to the notice of the profession as a medicinal agent not hitherto employed in England or this country, and which may be found serviceable in promoting the above purpose.—*Braithwaite's Retrospect*, vol. xx.

8. *Helonias dioica.* Unicorn plant. Blazing star.

Dr. Braman, of the *Boston Medical and Surgical Journal*, states that he has been in the habit of using preparations of the above plant as a remedial agent. He considers it particularly applicable to such affections as have their origin in atony of the generative organs of the sexes, particularly the female. "In leucorrhœa," he says, "I consider it invaluable. I use it with a confidence I attach to no other medicine. Under its influence, the patient, whose life has been almost a burden, revives; her uncomfortable sensations vanish, and ultimately an entire recovery of health and strength is established." It may be given in form of powder ʒiss; tincture ʒi; or syrup ʒiii, three times a-day; the latter is the most eligible. The dose to be taken half an hour before the ordinary meals, and increased if the patient bears it well; if it occasions nausea, to be diminished. (This application of the helonias is not noticed in the Report of the Committee on Indigenous Medical Botany.)—Vide *Braithwaite's Retrospect*, July to December, 1849.

HENRY R. FROST.

Charleston, S. C.

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C.*

REPORT OF THE STANDING COMMITTEE ON SURGERY.

In the investigation of our subject, we do not limit ourselves to the professional events of a single year, but take a more extended retrospect of facts, opinions, and procedures, which may illustrate points of interest and value in surgical practice or pathology.

Anæsthesia.—It is by no means a matter of wonder that, on the announcement of the extraordinary power of anæsthetic agents, so large a number of medical men, regarding, as they professedly do, the interests of humanity as well as the dignity of the profession, should entertain not only strong misgivings at repeating alleged experiments, but a decided hostility to the introduction of such fearful enginery into professional practice. The surprise comes rather from the fact that, in less than *three and a half years*, so few should remain in the ranks of the opposition.

Among those, however, who regard these agents as of great value in surgical operations, there is a difference of opinion as to which of them the preference should be given. The articles now employed are pure sulphuric ether, chloric ether, chloroform, and a mixture of chloroform with sulphuric ether.

Chloric ether is a tincture of chloroform, of which there are two kinds: the chloric ether of commerce, consisting of *one* part of chloroform to *fifteen* of alcohol; the other, more concentrated, composed of chloroform *one* part, and alcohol *nine* parts. The latter is the one employed for anæsthetic purposes.

Dr. George Hayward, of Boston, one of the physicians of the Massachusetts Hospital, expresses a strong preference for sulphuric ether. He gives an interesting paper on the subject in the *Boston Medical Journal* of the 10th of April, 1850.

Professor Horner, of Philadelphia, prefers sulphuric ether.

* This Report was not sent to the Committee of Publication, by the author, until after the other Reports were in type, and it could not, therefore, be inserted in its proper place.—Com. Pub.

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Dr. John C. Warren, President of this Association, and his son Dr. J. Mason Warren, both physicians of the Massachusetts Hospital, employ, exclusively, the chloric ether. From the former gentleman a valuable communication has been received. Vide (C—1).

Professor Knight, of Yale College, Connecticut, employs chloric ether; so also does Dr. A. L. Pierson, of Salem, Massachusetts.

Dr. D. M. Reese, of the Bellevue Hospital, New York, employs a mixture of chloroform *one part* with sulphuric ether *two parts*, by *weight*. In that hospital, this mixture has been a long time used, with an occasional exception. When the patient was less impressible than ordinary, chloroform was used alone. "In all severe surgical operations, in various nervous diseases, as epilepsy, hysteria, puerperal convulsions, delirium tremens, spasmodic asthma, and in severe and protracted cases in midwifery, these agents have been employed without unpleasant or unfavourable results."

Professor Pope, of St. Louis, employs "either chloroform alone, or in combination with ether," and has never observed any untoward symptoms to arise from them.

Professor Brainard, of Chicago, uses pure ether, or *three* parts of ether to *one* of chloroform. He was led to adopt this mixture "from having narrowly escaped the loss of two patients under the use of chloroform alone."

Professor Washington L. Atlee, of Philadelphia, employs "*two* parts of ether to *one* part of chloroform, liquid measure." Vide (C—2).

Professor Howard, of Columbus, Ohio, prefers chloroform. He considers it, "beyond comparison, the best anæsthetic agent known." He amputated the thigh of a man just below the trochanter minor. After the influence of the chloroform had subsided, a horrible pain attacked the stump, which was not alleviated by large doses of opium. The patient called loudly for chloroform; it was given, and subdued the pain. The inhalation of it at short intervals was continued, for five hours, when the pain yielded so far as to leave the patient comfortable.

That distinguished surgeon, Dr. Twitchell, of Keene, New Hampshire, uses "chloroform in all important surgical operations, and has never seen any bad effects from it."

Professor Eve, of Augusta, Georgia, writes, "I have had uniform success with chloroform. I have used about *ten* pounds of it in way of inhalation, without affecting but two patients only more profoundly than I wished. After experimenting with other preparations,

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I use now chloroform alone. I have never seen the least injury produced by this. To perform, now, a surgical operation without anæsthesia, would excite my sympathy tenfold for the sufferer."

Professor Gross, of Louisville, Kentucky, employs chloroform exclusively. Vide (C—3).

Professor Shipman, of Syracuse, New York, prefers chloroform to any other anæsthetic. He has "used it in a hundred operations."

Professor Hamilton, of Buffalo, uses "chloroform in all severe operations, rarely in minor operations."

The chairman of your committee has employed chloroform in upwards of two hundred and fifty surgical operations, without bad results in any case. It is administered to the patient in the horizontal position, with an empty stomach. It is inhaled from a handkerchief, moistened with twelve or fifteen drops at first, allowing small intervals between the several repetitions of the dose, until the effect is sufficiently deepened to admit of the operation being commenced; if the sensibility return before the operation is completed, the chloroform is repeated.

Professor G. Kimball, of Lowell, Massachusetts, has employed chloroform in all surgical operations of importance until last November, when he tied the internal iliac artery of a man under its influence. In a letter to the chairman, Dr. K. writes—

"In the next number of *The American Journal of the Medical Sciences*, you will probably find an account of my operation for tying the *internal iliac artery*. In advance of my report, however, I must inform you that my patient died. He died of *hemorrhage* the 17th day after the operation. This was a sad disappointment to us all; we had every reason to suppose the operation would be successful till the moment the bleeding appeared, and the disappointment was the greater, because I had supposed the particular danger had gone by after so long a period.

"A post-mortem examination showed that the bleeding had taken place at the point of ligature; and upon the vessel being slit open, it appeared that *not the slightest attempt had been made in the way of obliterating the artery by the formation of coagulum*. The inner surface of the artery was as clean, and as free of all inflammatory appearance as it possibly could be. The distance between the ligature and the point of bifurcation was a full inch.

"Again, it is worthy of remark, that there never had been any appearance *of healing* of the wound—not even the slightest evidence of fibrin in or about any part of it from the moment of the operation to the day of the patient's death. Now, this operation was performed while the patient was under the effects of chloroform. The amount inhaled was very large, larger, I think, than I had ever given before. It was given by means of a thin linen cloth wet with

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it laid over the mouth and nose. In this way, something more than two ounces were used—apparently, however, causing no ill effect, only requiring *an unusual amount to induce insensibility*. The effect of it passed off after the operation as it usually does, giving no reason to suppose any harm could result from it. The patient, however, always insisted that he had been *poisoned* by it, and manifested, ever after taking it, a perfect horror at the very name of chloroform. I am compelled to think it may have had something to do with the result of the case."

On a careful review of our surgical experience with this anæsthetic, we cannot fix upon a single case in which the plasticity of the blood seemed to have been impaired, or the healing process retarded.

Were we to employ any other anæsthetic than the simple chloroform, we should select the mixture of it with ether, one measure to two, as practiced by Professor Atlee. From several trials we have made, we think the pulse is rather better sustained than under the chloroform alone.

Cancer.—The following case, from the *Charleston Medical Journal*, was drawn up by Dr. H. J. Bowditch, of Boston:—

Case of Malignant Tumour, of eight or ten years' standing, cured after two years by a strict diet of bread and milk.—Every medical man, I presume, is somewhat acquainted with Dr. Twitchell. He is one of the most noted of our New England surgeons. His circuit has a diameter of fifty miles; and he has always, even while suffering from the local disease I shall endeavour to detail, been able to drive a hundred miles, if necessary, in the twenty-four hours, and in his own carriage, over the hills of his native State. The medical history of his *life* is extremely interesting. I shall, therefore, give that, very briefly, before entering upon the consideration of this local disease.

1st. Carcinoma has appeared in his family. His grandmother died of cancer of the mamma; his sister of a scirrhous pylorus. These are all the data of his hereditary tendencies that bear upon our main topic.

2d. In very early life, Dr. T. was in delicate health. As a youth, he was stronger, and was among the foremost in all athletic sports. While at college, he became dyspeptic, had icterus, with enlarged liver, &c.; subsequently, he passed gall-stones. Whilst pursuing the studies of his profession, he began to suffer from asthma, and for about twenty years was very much subject to violent attacks of it, causing orthopnœa, &c. During all this period, he ate animal food very freely, three times daily, and digested it easily; whereas vegetable food caused dyspeptic difficulties. Being induced, owing to a severe acne of the face, to abandon this course, he gave up, for nine years, the use of meat. From the period at which he first

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abandoned meat, he has never had an attack of asthma, and Dr. T. considers these two facts related to each other as cause and effect. Moreover, vegetable food was soon easily borne. After the nine years of vegetable regimen, he began gradually to resume the use of the milder kinds of animal food, such as poultry and somewhat of the more solid meats, until two years since, when he commenced the very rigid diet which will be described when treating of the local disease, which is the more immediate object of this paper.

Finally, I will state, as indicative, perhaps, of the tendencies of the cutaneous system to morbid action, that, about four years ago, he had a papular eruption lasting six weeks; and, likewise, that very many years ago he had a wart-like tumour on the scalp, which disappeared under the use of creasote, externally applied. I should have stated above that the acne disappeared after the use, for some months, of a vegetable diet.

3d. The local disease, the course and result of which I present as the chief object of interest, commenced eight or ten years since, as a small but hard tumour at the internal angle of the right eye. When first noticed, it was about as large as a mustard seed, and not painful.

He occasionally touched it, and had some suspicion that it might eventually prove to be of a malignant character. It was imbedded in the substance of the cutis, and from the first seemed very slow to augment in size.

At times he *thought* he felt some lancinating pains in it, which radiated to the brow. It did not, however, interfere with the functions of the lachrymal ducts, &c.

About 1843, the tumour had become nearly as large as a pea, and a tendency to the formation of a scab was observed. He then was induced to try some local applications, and frequently, until 1845, used Jennings' ointment.* This would remove the scab, and display three small lobes, from which exuded a little purulent fluid. At first, the morbid growth seemed lessened by this and other milder applications, but no permanent effect was produced. At times, the discharge ceased, but only to return again, and the tumour gradually lost its tri-lobed aspect. It was at this period quite conspicuous to every bystander.

August, 1845, Dr. Geo. Hayward, of this city, removed the major part of it with the scalpel. For a short time, the wound seemed doing well; but, finally, it did not heal, and two months afterwards it was operated on again, and nitrate of silver was applied. Meanwhile, however, there had been experienced much local pain. It was deeper seated, less transitory, and radiated towards the brow and cheek. Sometimes it was severe enough to awaken him at night, and was worse usually after long journeys.

The applications, during 1846–7, were chiefly of a very similar character—cold cream, preparations of zinc, &c.; and once the iodide of lead. All active applications caused inflammation of the con-

* Mackenzie on the Eye.

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junctiva. The tumour continued to augment slightly, and in the spring of 1847 it presented to my eye a decidedly malignant appearance. It was an ulcer about the size of the top of the finger, with ragged, hard, elevated edges, and the irritation from the discharge caused the patient frequently to apply his handkerchief to the part. At night, it caused a gluing of the lids and a discharge on the side of the nose. I certainly believed, and Dr. T. tells me that he thought, at the time, that the disease would gradually augment and involve the eye—and he had determined, if necessary, to have this organ extirpated. His general health, as it has been already stated, continued good; but, when not actively employed, the mind was somewhat depressed at the prospect before him. At the meeting of the American Medical Association in Philadelphia, May, 1847, he consulted several of the eminent men whom he met; and I believe, I may say, that all regarded it as a disease of a most serious nature, although some thought it might be cured by local applications, and others advised a further operation.

Dr. T. returned home discouraged, and he decided to give up all use of medicines internally, or of external applications, but to try a course of the most rigid diet. Starting from a theory that malignant diseases arise from the fact that we take too much carbon in our systems, he determined to live from that time upon a bread and milk diet; and if, at the end of some months, he did not find any diminution in the disease, he still determined to use nothing but bread and water.

Since his return from Philadelphia, he has strictly adhered to the bread and milk. He has used three times daily from four to six ounces of cream or the richest milk, and the same quantity of either white or brown bread. He continues that diet still. The results, upon the *local disease*, have been as follows: The pains in the part were lessened almost immediately. The purulent discharge very soon began to diminish, and in two or three months it was evident that the disease was not augmenting. During the following winter, the improvement was more decided.

In the spring of 1848, being obliged to ride over dusty roads to great distances, the eye was more irritated. Nevertheless, he felt, and his friends assured him, that the diseased part was really lessening, and tending towards a cure. Since that period, a steady improvement has taken place. The ulcerated mass, which was so perceptible to me two years since, has wholly gone, and now (August, 1849), I can discover no difference between the angles of the two eyes, save that in the right one there is a minute white spot, about a line in diameter, looking like a cicatrix. It is not harder than the adjacent parts, and, had I not known of the existence of previous disease, I should not have noticed even this. There is no discharge, no pains, and a perfect cure seems to have been accomplished of a disease that had been existing for about ten years in a patient aged sixty-eight years. The effects of this rigid diet upon the constitution, as a whole, are interesting.

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In his mental estate, Dr. T. thinks he has been much less irritable than when he was *omnivorous*.

He had, at one time, an attack of vertigo (to which, however, he has been always liable), and, finding that he was *growing corpulent* under the diet, he, for a time, took less of it. He has always been as strong as when indulging in a more generous diet. He has been able to breathe better, having had less tendency to dyspnœa.

His digestion has been good, but with a slight tendency to costiveness. His organs of circulation have been unaffected. Renal excretion for years a little disturbed, as is not unfrequently the case in persons of his age.

Finally, Dr. T. presents, to my mind, the picture of a hale, robust man, in perfect health, so far as one can perceive, and but slightly touched by the influence of his many years of honourable and successful labour.

Reflections upon Dr. T.'s Case.—The most important topic involved in the foregoing record is the restoration to health from what seemed to be malignant disease, and that this result followed the strict diet of bread and milk for two years.

2d. The cessation of asthmatic difficulties, after they had troubled the patient for twenty years, and that this cure likewise followed the change of diet—from an almost strictly animal diet to one quite the reverse, viz., strictly vegetable.

3d. Some readers may ask, if these two cures are not merely examples of the "*post-hoc;*" and they may deny that there is any complete evidence of the "*propter-hoc.*" I consent to the doubt, for it has entered my own mind.

Nevertheless, if they are mere coincidences, they are pregnant with important suggestions. I confess that, in my own practice, I have never met with any cases so significant of the power that diet, simply and heroically used, has to *reorganize* a man.

4th. Dr. T.'s case becomes interesting as an evidence of the power of a man to subject his body to strict rule. In this epicurean age, it is quite refreshing to find one who "eats to live, and does not live to eat." A worthy professional brother, of this city, said, when the case was related to him, "It might certainly be a question whether life were desirable under such a regimen?" I honour a hero wherever I find him, and the heroism of Dr. T., in undertaking and pursuing this course so long, merely in consequence of a theory,* excites in me the greatest delight.

In this skeptical, unbelieving era, I like to see any one having *faith*. Whether the theory was correct or not, it matters little; the fixed will of its follower arouses my enthusiasm: and this brings me to another topic of interest.

5th. The theory which governed Dr. T.—was it correct? I confess that I am unable to solve the question; I merely suggest it.

* That Dr. T. was not influenced wholly by theory, the additional case, which I have presented below, will prove.—H. J. B.

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Some, whom I consider as our ablest animal chemists, think that it was by the process of starvation, as described by Liebig, that the cure was wrought. It seemed to me that this cannot be the true explanation—for Dr. T. has always been stout; and it will be remembered that at one time he actually gained flesh under the diet.

A man about forty years of age consulted Dr. T. in relation to a tumour on his scapula, as large as a pint bowl. It was evidently osteo-sarcoma, had its usual crackling feel, and resembled very closely one in the same position which Dr. Twitchell had seen a short time previously, and for which he had removed the whole upper extremity, even scapula and clavicle. In that case, the wound healed; but the man died, a year or two afterwards, with carcinoma of some internal organ. When the second case applied for advice, Dr. T. declined an operation, and the man returned home to Vermont. Soon afterwards, he heard of somebody in New York who could cure him, and, applying to this person for advice, received the following:—

He was to take from the brook which ran through his native farm a plant which grew there (the adviser did not know what it would be), and use a weak infusion of it for his only drink every day until the tumour had disappeared. *His diet, besides this, was to consist of bread alone.* This advice was strictly followed; the plant he used was "water dock."

Dr. Twitchell happened to see the man two years afterwards, when he was still following this course. He found the tumour had nearly disappeared, there being apparently only a trifling thickening of the skin.

The following has lately been received by the chairman of your committee, from Dr. Twitchell: "I have no objection to your noticing my own case as reported by Dr. Bowditch. It is very correctly reported by him, as well as the other case where an osteo-sarcoma was cured by diet."

A physician of Massachusetts reported, some years since, in the *Medical Journal* published at Boston, the case of his mother, who was cured of a cancerous affection by diet. Some time after the removal of a scirrhous breast by a surgical operation, the disease reappeared in the cicatrix. Dr. Nathan Smith, for some years Professor of Surgery in the Medical Institution at Dartmouth College, N. H., and afterwards at Yale College, Conn., was consulted in the case, and recommended the adoption of a most rigid diet. The patient was to confine herself exclusively to the maize, or Indian corn, plucked in the milk and boiled, for food, and to water for drink.

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This was faithfully followed. The morbid growth gradually diminished, and ultimately disappeared altogether. Enough corn was gathered in the milk and dried to last through the year. This abstemious living was pursued undeviatingly, according to our recollection, for *two and a half* or *three* years. We cite the case from memory, not at present having access to the volume containing the record; but we think we give it substantially as reported. The cure was much talked of at the time. Few patients can be induced to *commence*, much less to *follow* perseveringly, a course involving so great self-denial. The chemists have not satisfactorily shown how diet can extinguish cancer.

Osteo-sarcoma.—From its liability to return after operations for its removal, and its tendency to a fatal termination, osteo-sarcoma has been regarded as essentially malignant in its nature. Yet this disease may often be greatly retarded in its progress, and sometimes cured by surgery.

In 1817, Horace Wheeler, æt. 27, of Randolph, Vt., applied to the chairman of your committee for an osteo-sarcomatous tumour of the metacarpal bones of the thumb and forefinger of the right hand. These were removed. In 1831, more than thirteen years afterwards, the patient came again and had the arm amputated at the shoulder joint, the disease having developed itself in the radius, and in the upper half of the os humeri, in the form of a very large tumour. Six years afterwards, viz., in 1837, Mr. Wheeler came again, and submitted to the removal of the entire shoulder blade and collar bone, both being extensively invaded by the same disease.*

Dr. Carpenter, of Randolph, Vt., writes, under date of April 26, 1850, as follows: "Mr. Wheeler is now sitting by my side. He says, 'My health is as good as that of any man of my age. I had a tumour removed from my breast on the 9th of May, 1839, and another from my leg in 1841. I am now free from everything of the kind. I am in my sixtieth year, and can see nothing, so far as my disease is concerned, to prevent my living to *the common age of man.*'"

Scirrhus and Cancer. Operation for removing Scirrhous Breast.—That eminent surgeon, Professor B. W. Dudley, of Lexington, Kentucky, writes as follows:—

"I have never removed a scirrhous breast but with a recurrence

* *Vide* American Journal of Medical Sciences, vol. xxi. p. 390.

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of the disease at a subsequent period. I have witnessed the healing of a carcinomatous ulcer as large as a man's hand within a month, under the influence of a fervid imagination, and, just as the last point was expected to cicatrize, the force of the imagination gave way, the ulcer reopened, and the patient died in a few weeks. I have kept the carcinomatous action in check for years by severe abstinence, but have never seen it cured."

Professor Eve, of Augusta, Georgia, declares, "I have never yet operated upon a scirrhous or cancerous breast, when the diagnosis was unequivocal, that the affection did not return."

Dr. J. Kearney Rodgers, of New York, a gentleman of extensive surgical practice, writes that, when he commenced the practice of surgery, he "operated on almost every case that presented itself; for so," says he, "I had been taught, and was led to imagine that the disease *might* return, but that was the exception, if you cut far enough beyond the diseased mass. The result, however, of my operations was that not two survived the operation in good health two years, the greater number being in their graves in less than twelve months, and many in six.

"I know that Leroy d'Etiolles, in France, has attended to this subject, and that the result of his investigations is adverse to the operation; but I should be very much pleased to have the subject placed before the surgeons of our country, that they may, perhaps, after a lapse of years, give the result of their experience. I have not operated for cancer of the breast for nearly ten years."

Dr. S. Parkman, a member of your committee, and one of the surgeons of the Massachusetts Hospital at Boston, makes the following communication:—

"Of late years, the question of the advisableness of operating by the knife for the removal of cancerous tumours has been much mooted among surgeons, who are accustomed to examine into the result of their experience in order to estimate aright the value of the means they are daily employing. It is well known that many most distinguished surgeons decline altogether interfering with such tumours, so convinced are they of its certain return; some even maintaining that the appearance of the disease in other parts of the system is actually hastened by its removal from its primitive situation, and that life is shortened by the very means employed to prolong it. On the other hand, those who do operate allow that the cases where the disease does not return are only exceptional, each surgeon reckoning only individual instances of his good fortune; but

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they defend their practice by maintaining that, as the disease rarely returns in any severe form in the cicatrix of the operation, the patient is saved from the loathsomeness to himself and friends of dying of a foul external ulcer. The danger of the operation is not regarded, and, having means to completely annul the pain, this need not be taken into the account. Of course, all parties are agreed that, unless in very peculiar cases, where the disease has already declared itself elsewhere, no operation should be undertaken.

"Such being the condition of surgical opinion upon the subject, it becomes an object of interest to inquire what is the actual immediate danger to which we subject a patient upon whom we thus operate. Is the operation a dangerous one? Of course, the answer to this must depend upon the gravity of the operation, varying from that connected with the removal of a small tumour to that of an amputation of a lower extremity. But, inasmuch as the female breast is by far the most frequent seat of this disease, I have thought it would not be without interest to determine approximately the danger of the removal of this part; and with this view I have examined the records of the Massachusetts General Hospital from its commencement in 1822 until the present year, about twenty-eight years. And I find during this time there have been eighty-eight operations and six deaths. Of these six, four were in cases where there is good reason to believe disease was already present in the internal organs, which at the present day would have been more carefully examined, and the discovery of which would have prevented surgical interference.

"One died of erysipelas and one of pleurisy, the inflammation having probably been propagated from the wound. Eliminating, then, the four, when internal disease was already present, we have eighty-four operations and two deaths. And in both of these the tumour was of that character as to require amputation, thus leaving a large granulating surface. Removal of a cancer of the breast by the knife is, therefore, not a dangerous operation *per se*. As a proof that the pain is a very considerable element in deterring patients from submitting to the operation, and also of the confidence felt in the power of anæsthetic agents, I may mention that, in 1847, the year after the valuable discovery of their power, three times as many operations were performed as in any year preceding."

Professor Pope, of St. Louis, speaks discouragingly of the operation generally, but still operates in the more favourable cases.

The chairman of your committee has but little to boast of from his own experience in this operation. He has operated in several

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instances without having learned the sequel; but, among those cases of which the results were ascertained, there have been only two in which the disease did not return in some part of the system within four years, and most of them within one year. In those two cases, neither the papilla, the areola, nor any part of the integument, nor the axillary glands were affected; and the tumour, though very hard, at times painful and involving the whole mammary structure, was not adherent at its base. If these were malignant, they were obviously not the most so. One of the patients was about forty years of age; the other short of thirty. The first was entirely well ten years after the operation. The other is still free from disease, eight years from the operation.

Professor W. L. Atlee, of Philadelphia, mentions a case in which he operated on the 18th of March, 1843. The patient, Miss E. M., aged eighty-six years; tumour attached to skin, the latter corrugated and ulcerated; axillary glands unaffected. Whole left breast removed. *Recovery;* no return.

Dr. Twitchell says, "I have removed a good many scirrhous breasts. In a few instances, where the patients have persevered in a rigid diet, avoiding oils and sugar, the disease has not returned; but in almost all cases, the disease has affected some other part of the system and carried the patient off."

Professor Gross remarks upon this subject as follows: "I have nothing novel or encouraging to offer, in regard to extirpation, on scirrhous tumours of the mammary glands. All my earlier operations, save a solitary one, have terminated unfavourably, and I am so well satisfied that this will generally happen that I have, of late years, repeatedly declined all interference of the kind. My conviction, founded upon considerable experience, is that patients will, on an average, live quite as long, if, indeed, not longer, if the disease be permitted to pursue its course, than where an attempt is made to arrest it with the knife. By strict attention to the diet, bowels, and general health, taking care to maintain this constantly as near as possible to the natural standard, the morbid growth may often be kept in abeyance for several years.

"The exceptional case above referred to occurred in a maiden lady of the name of Marks, about forty years of age, from the neighbourhood of Bardstown, Kentucky. Her right breast had been affected for several years with a hard, firm, circumscribed tumour, possessing all the characteristics of scirrhus, even to the sharp, lancinating pain, retraction of the nipples, and pretty firm adhesion to

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the pectoral muscle. I operated upon her about six years and a half ago, and have been recently informed that she remains entirely well. The wound healed kindly after the operation. After its removal, the tumour was carefully examined, and found to exhibit all the ordinary features of true scirrhus."

Professor J. Knight, of New Haven, makes the following communication: "In regard to the result of the operation for the removal of scirrhous tumours of the breast, I am afraid the information which I have is too indefinite to be of much service. I have removed very many such tumours; but, in many of the cases, the patients have resided at such a distance from me that I have only heard of them afterwards in a very general manner, that they were living, or that after a time the disease returned and terminated fatally. I have found also very great difficulty, in many of the cases, in determining satisfactorily the precise character of such tumours, either from the symptoms which have accompanied them, or from any examination which I could make of them after their removal. With the little exact knowledge which I have of such subjects, I have frequently doubted whether a tumour which had been removed deserved to be called benign or malignant.

"I believe, however, I can state, in a general way, the following as the results of my experience:—

"1st. I have seen no case of a tumour of the breast, having what are commonly considered as the ordinary symptoms of a malignant tumour, accompanied by a diseased state of the lymphatic vessels passing from it, or of the axillary glands, in which the disease did not return after the operation, either in neighbouring parts, or in some of the internal organs, and terminate fatally.

"I have operated in a good many such cases, removing carefully all the parts which appeared to be diseased; I have declined the operation in quite as many, which have afterwards been operated on by other surgeons, and in all of which I have learned the subsequent history, the result has been the same.

"2d. In all cases upon which I have operated myself, or which I have known operated upon by others, in which the tumour may be called soft cancer, to distinguish it from scirrhus, whether they were fungoid, medullary, or any other of the varieties of this form of disease, there has been a return of it commonly after a short interval, and more usually in some of the internal organs, terminating fatally in most cases within eight months after the operation.

"3d. In the remaining class of cases, equal in number, I think, to

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both the others, in which there has been a scirrhous tumour of comparatively slow growth, and without any affection of the neighbouring parts, the symptoms and appearance of the tumour being those commonly mentioned as marks of malignancy, the proportion of ultimate recoveries has been, as nearly as I can arrive at, about *one in four or five*. From this estimate I of course exclude all those tumours to which no suspicion of malignancy is attached.

"In a few of the cases, a tumour has appeared in the cicatrix following the first operation, or the immediate neighbourhood, and has been successfully removed; and in one case I removed four such tumours, which appeared successively at intervals of about a year, from an old lady whose mother had a cancer of the breast, who lived about eighteen years after the last operation, and died of old age, ninety-five or ninety-six years old.

"In many of the cases in which the disease has returned after an operation, I have been confident that life has been prolonged for a considerable period by it. I am not certain that this has been true in any of the cases of soft cancer, and in several of them I have been confident that the patients have suffered more and died sooner than if no operation had been performed."

Two cases were mentioned to the chairman of your committee: one in 1830, by Sir Philip Crampton, of Dublin, Ireland; the other by Dr. Physick, of Philadelphia, a few years before his death. Sir P.'s case was one of ulcerated scirrhous breast, with indurated axillary glands. He removed the breast with the diseased glands, and, *seven* years from that time, found the patient well; but lost sight of her afterwards.

Dr. Physick removed an ulcerated scirrhous breast. The lady remained free from all appearance of the disease for *nine* years. At that time, she visited the doctor, requesting an operation for some hard lumps in the cicatrix; but he declined operating, and in a few months she died. These eminent surgeons considered the cases to be strongly marked as malignant scirrhus, and the results of the operation to be very rare.

Soft Cancer.—Dr. J. B. Flint, of Louisville, Kentucky, gives *two* interesting cases:—

The *first*, encephaloid testis. The patient, aged thirty-five years, a married man with several children, had been suffering for several months. Spermatic cord natural. "The operation was performed on the 16th of March, 1840. The wound healed kindly, but the

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patient continued cachectic for many months afterwards. He recovered, however. Took tonics, among them chalybeates. He is now, April 24th, 1850, quite well."*

"November 24th, 1843. I removed from Mrs. C., a lady of about twenty-five years of age, a fungous degeneration of the right mamma. The disease had existed for several months. The tumour had been punctured about a week before I saw her, and from the opening had sprouted out the characteristic fungoid growth which was then already half as large as your fist, and giving rise to exhausting hemorrhages, which were rapidly hastening the case to a fatal termination. After a candidly explicit statement of the probabilities of the result, she decided to take the chance of an operation. The integuments of the breast were so extensively, either actually involved, or in a suspicious condition, that I could not preserve enough to cover the whole wound, and a considerable portion of it had to heal by granulation. In the course of her recovery, which was slow, two or three times this portion of the wound assumed a suspicious look; but finally, under simple warm water and other mild forms of dressing, cicatrization was affected, and with the use of tonics only for medication, of which a part, I believe, were chalybeates, she recovered completely.

"I was very happy to find her to-day (April 24th, 1850) busy with her domestic duties, a plump, healthy, and happy mother; at present nursing from the remaining breast the second child born since the operation. She had had two children previously; all of them at present seem to be healthy.

"In both these cases, the nature of the disease was unequivocal. In the latter, the morbid product was subjected to microscopical examination, and the appearances corresponded with the best descriptions we have of fungus hematodes."

In February, 1822, the chairman of your committee operated upon Dr. G. Heaton, aged 51, from Vermont, for a tumour upon the left side of the neck. It was scarcely three months since the doctor first noticed it, of the size of a filbert or small nutmeg; but it now measured from the tip of the ear to its lower part, accurately, four inches; its lateral diameter three and a half inches; the distance of its apex or most prominent part from the outer side of the larynx as the line of its base, was more than two and a half inches. The primitive carotid was tied, and the tumour removed, along with the sterno-cleido-mastoid muscle, which was imbedded in it.

* We have seen the specimen: it is undoubtedly encephaloid.

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The tumour, on being opened, exhibited, especially in its more prominent and elastic parts, the encephaloid texture; the mastoid muscle involved in it was whitened, and for some extent was so identified with it as to have lost its fibrous structure. The wound healed kindly. The patient was directed to take daily for some weeks fifteen to twenty grains of the phosphate of iron. Seventeen years afterwards, the operator had an interview with the patient, and found him in good health. There had been no return of the disease.*

From the foregoing cases, we are authorized to infer that soft as well as hard cancer, even when situated in the mammary gland, is in some cases a local disease for a considerable length of time, and that the operation *may* prolong life, and, possibly, sometimes effect a permanent cure. The case by Prof. Knight, of the old lady who lived eighteen years after the last operation, and died without a return of the disease, is peculiarly interesting. In cancer of the lip, the operation of removal by the knife rarely fails. Is it owing to the greater difficulty in distinguishing and dissecting away every particle of the diseased structure in the cancerous breast that the operation is so seldom successful?

Medication in Cancer.—Prof. Brainard exposed pieces of cancerous tumour to various agents, as vegetable extracts, and numerous salts dissolved in distilled water. "These mixtures were examined from day to day with the microscope, in order to ascertain the influence each would exert on the cells of cancer. The solution of sulphuret of potash, the ethereal solution of phosphorus, and the solution of the lactate of iron, were those alone which have the effect of rapidly destroying the cancerous corpuscles. The lactate acted the most rapidly, and, at the end of four days, little trace of cancerous forms could be detected in its solution.

"These three solutions possess in common the property of abstracting oxygen from the animal tissues, and agree in this respect with all the remedies found most useful hitherto in the treatment of cancer. The internal use of narcotics diminishes the amount of blood which enters a part. The washes found most useful are those which coagulate albumen upon the surface, and thus protect it from contact with oxygen, and of the caustics and escharotics employed, those are found most successful which form the firmest eschar and best protect the part. The rapidity with which cancerous growths increase when they arrive at the stage of ulceration, and the contami-

* New England Journ. Med. and Surg. vol. xi. p. 369.

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nating effect they exert on the system, clearly point to the action of air on such surfaces as one of the most powerful means of generating cancerous cells. It was then reasonable to suppose that a substance having an affinity for oxygen would be useful in cancer, especially when composed of elements so useful in the system as lactic acid and the oxide of iron.

"Experience seems to confirm these views, for, in the two cases in which I have used it, in one internally, and in the other both internally and locally, it exerted a beneficial influence greatly exceeding that of any remedy whose action I have witnessed. Indeed, both cases seem palliated by its action. In order, however, to cure the disease, Prof. B. supposes that the whole of the fluids and solids of the body would require to be brought under its influence. This might be effected by injection into the veins. I found *ten grains* of the lactate, imperfectly dissolved in *an ounce* of distilled water, and thrown into the saphena vein of a small dog, to produce no ill effect, or the same end may be gained by slowly infiltrating the morbid and other tissues, by which means the fluids are kept charged with it." How far these suggestions may lead towards the successful medication of cancer must be left for further observation and experience to determine. We have now under treatment a cancerous ulcer, which is but slightly, if at all, affected by the constitutional and local treatment with the lactate of iron.

Diet in Cancer.—In 1834, Dr. James McKeen, Professor of Obstetrics in the Medical School at Brunswick, Maine, allowed me to copy from his note-book the details, too long to be inserted here, of a case of cancer of the uterus. The patient, æt. 39 years, had been in the habit of living upon rich food, and drinking strong coffee. She suffered greatly with symptoms which Dr. McK. ascribed to cancer of the womb, as ascertained by examination. He prescribed the simple forms of farinaceous food, with water as the only drink. This course, for three years, had the effect to relieve the pains, and secure to the patient so comfortable a state of health as to induce her at times to regard herself as cured. The slightest deviation from her rigid diet brought back the pains and the fetid discharge. At the expiration of three years, influenced by the solicitation of some friends she was then visiting, she lived for a few days on strong food, such as she had been formerly accustomed to; and a most severe attack of pain, with a foul discharge, followed. To relieve this, by the advice of her *good friends* she consulted a doctor, who was said to be

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very skilful in *such cases.* He prescribed from half an ounce to an ounce of the strong tincture of guaiacum, to be taken three times a-day. In two or three days, the doctor was called to extinguish the fires he had kindled, but could not. In ten days, Dr. McK. was requested to visit her, and found her dying. A post-mortem examination revealed the entire destruction of the neck of the uterus, and the body of the organ "jagged" with deep ulcerations. The anterior and posterior walls were ulcerated through, and communications made with the bladder and rectum.

Aneurism.—The following views, with cases, by Professor B. W. Dudley, from the *Trans. Journ.*, Oct. 1849, will be read with particular interest:—

"As early in my professional career as the fall of 1814, I was applied to for assistance in a case of brachial aneurism, consequent to a wound received during the previous winter. Isolated pressure made by means of pledgets of cloth, of portions of wood adjusted to the part, and of sheet lead bound firmly upon the swelling, had been tried, but produced great pain, with progressive aggravation of the malady.

"Inasmuch as the parents of the youth were opposed to any surgical operation in the case, it was agreed to apply the common roller from the fingers to the shoulder, including thick compresses upon the aneurism, and upon the artery as high as the axilla. This equable compression had the direct effect of moderating the circulation of the entire limb, but more especially that of the humeral artery and the aneurismal swelling, and it was submitted to with but little complaint on the part of the patient. In consequence of the loose state of the bandage from the reduction of the limb and swelling, it became necessary on the third day to reapply the roller and compresses; and, subsequently to this, the reduction of the limb, and the aneurism by absorption, made it necessary to reapply the dressings two or three times a week. At the end of the third week, the pulsation in the tumour was low and languid. By the sixth week, it was not distinguishable; and on the conclusion of the second month, all dressings were laid aside, the patient being well."

The satisfactory results from the treatment of this case inclined me to the use of the same means in all aneurismal affections of the arteries of the extremities, and for ten years in succession the results were equally successful and gratifying. Among many cases which occurred within that period, may be named a reverend gentleman from Tennessee, who came for professional assistance in 1819, on account of brachial aneurism. In accordance with the treatment just described, this gentleman was cured and returned home in six weeks. The case of a youth of this place presented some variety,

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as the aneurism was upon the mid portion of the ulnar artery, consequent to a wound inflicted in a butcher's stall, by falling on an iron hook. The case was cured by bandage and compresses in three weeks.

Judge S. B. sustained fracture of one leg, followed by aneurism of the anterior tibial artery, which was cured in five-and-twenty days by means of bandage and compresses.

When these and other cases had established the efficacy of properly adjusted pressure in the treatment of all aneurisms accessible to its influence under feelings of confidence, the result of uniform success, the following case, which occurred in 1826, was brought before the medical class, when a disaster occurred well calculated to startle a well-placed confidence in a plan hitherto successful, and yet its consequences pointed to new difficulties to be surmounted, in order to render success even more certain. A man in the employment of Messrs. W. B. & Co., of this city, was placed under my care, to be treated for brachial aneurism succeeding to a wound. On the occasion of removing the third dressing, which had not been carried much above the swelling, he was brought to the hall, and, to the surprise of all present, when the dressings dropped from the arm, an eschar was detached with a gush of arterial blood from the sac.

"This unexpected result called forth particular attention to the condition of the artery; a condition entirely at variance with what I had been taught, in our own country and abroad, as regards the weakened condition of the aneurismal artery.

"The very strong contractions of the artery, of which conclusive evidence was before me, in the difficulty encountered in suppressing hemorrhage, and in the application of the ligature, admitted of no other explanation than that of high inflammatory excitement both in the sac and for some distance before the artery reached the swelling. Observations made upon all subsequent cases of aneurism have satisfied me that the disease consists in preternatural volume and power of contraction in the artery for some distance above, as well as at the seat of the sac, while the old unsuccessful operation performed upon the artery as it enters the sac grew out of inflammation being above that stage which is favourable to adhesion. In accordance with these views, no difficulty was experienced in effecting a cure in all cases coming under treatment, *where compression could be satisfactorily applied upon the sac, and also upon the artery above, so as to embrace all the inflamed portion of it.*"

Three years ago, a traumatic aneurism at the bend of the arm was successfully treated in six weeks, under the direction of the chairman of your committee, by a bandage applied to the whole arm, including a compress of moderate thickness upon the tumour.

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The two following cases show important effects of diet and regimen in vascular enlargements:—

"A gentleman from an adjoining State came to Lexington a few years ago, with a view to professional assistance. He had been greatly distressed with embarrassed breathing, was incapable of muscular exertion, very irritable, while all excitement was calculated to aggravate a pulsation, at all times troublesome near the sternal end of the left clavicle. This case was too plain to admit of mistake. Professors J. M. Bush and E. L. Dudley were invited to examine it in company with me. After a few days' delay, and relying upon the firmness and intelligence of the gentleman, he was made acquainted with the nature of his malady, together with the mode by which to secure, for the time being, the largest share of comfort, and the principle to be put in practice by which only he could entertain a rational hope of ultimate restoration. He was required forthwith to relinquish the duties of a very exciting occupation: to avoid, as highly detrimental, both present and prospective, all mental and physical excitements not necessary to life: his diet to be limited to the smallest quantity; the least exciting in quality; and his bowels to be maintained uniformly free by the aid of such cathartics as, for the time being, were indicated by the condition of the alimentary organs. With what success these severe restrictions, put upon the mental and physical, were crowned, may best be answered in the fact that the aneurism of the left subclavian, of which he was the threatened victim, slowly, yet progressively receded, until finally he found himself in a condition to enter upon, and now is in the performance of, high official duties."

Of the following very extraordinary case, Professor J. Bush, of the Lexington Medical Institution, writes us under date of April 9th, 1850, as follows: "I assisted in the operation, attended the case during convalescence, and can testify to all the statements made by Professor Dudley in relation to it."

"Of all the cases of aneurism on record, probably one from St. Louis, about six years since, is the most remarkable, when to the peculiarity of location is added the success of the treatment. The patient, a laborious mechanic, 25 years of age, had been an occasional and intense sufferer in his head for five or six years, for which much had been done in the way of local applications and internal remedies. Upon examination, the right eye was found to be remarkably protruded from the socket, with pulsations which could not fail to arrest the notice of the observing surgeon at some distance from the patient. The transverse suture at the outer corner of the eye was opened sufficiently to admit the end of the finger. A large portion of the os frontis, os temporis, and temporal plate of sphenoid bone, and a part of the parietal bone, were disjoined and elevated some lines above the proper level by an aneurismal affection of the internal carotid. The eye and ear of that side ceased to perform their func-

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tions. Reposing much confidence in the efficacy of preparatory medicine with appropriate food, the patient was put upon the tri-weekly use of evacuants, selected with a view to the profuse, yet healthy action of all the secretory processes, while his diet was required to be light, of easy digestion, unexciting, fluid, and in most moderate quantities. After a few weeks passed in this preparatory course, with great amelioration of suffering, he was taken before the class, since an operation was deemed necessary, however remote the prospect of triumph. When the carotid artery was exposed, it was held for a short space of time between the thumb and finger, in order to witness the effects of checking the circulation on the brain and nervous system. Immediate quiet in the corresponding side of the head, with cessation of pulse, ensued, and then without further delay the artery was tied.

"When the dressings were applied, the patient expressed himself as being relieved of a noise in his head, which had been an attendant throughout the history of his malady.

"The great disturbance to the circulation of the brain, consequent to the application of the ligature, was attended four days after by a highly morbid state of the biliary secretions, accompanied with fever, which soon yielded to broken doses of tartar emetic and cathartics of calomel.

"By the expiration of the second week from the operation, the tumour had receded so far that the disunited portions of the cranial bones had recovered their proper position, while the eye and ear were restored to their functions. Before the conclusion of the month, he left this place for St. Louis, where he resumed and now is engaged in prosecuting his occupation as a blacksmith.

"In this remarkable case, the inference is very fair that the operation was rendered successful by the preparatory and consecutive treatment; while all that medical skill could claim would have availed but little without the assistance of the ligature, is an inference not less rational."

Professor D. cites cases of what he regards as aneurism of the heart, successfully treated by diet and regimen. That much may be done in this way in relieving the circulating system under disease, connected with plethora or unnatural excitement, has been long known; but there are very few members of our profession who have had sufficient influence with their patients to secure the rigid and persevering self-denial necessary to bring about such results as are described by Professor Dudley.

Dr. J. B. Flint has reported, in the *Western Lancet* for November, 1849, a case of traumatic aneurism in the left axilla, in which he attempted to tie the subclavian by operating above the clavicle. The artery was not in its natural position; in its place was the lower cord of the cervical plexus. "The artery was found an inch and a

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half from the outer margin of the anterior scalenus muscle, in a direction upward and inward. Only so much of it could be exposed as could be covered by the point of the finger." It was so "embraced by the surrounding textures as to render all attempts to isolate it sufficiently for passing a ligature fruitless," and the operation was abandoned. In three weeks, the tumour was pulseless and greatly diminished. The operation was undertaken in June, 1849. Dr. F. saw the patient the following September; "the cure was complete." How was this cure effected?

Injuries of the Head—A bullet remaining in the head.—Dr. Robert Thompson, of Columbus, gives two very interesting cases:—

A man of forty years had a bullet wound an inch above the top of the right ear. On the fiftieth day, the Dr. removed fragments of bone, which left an opening in the skull an inch in diameter, and a corresponding cavity in the brain, extending towards the falx major. At the end of seventy days, the Dr. found and removed a bullet patch. At the end of five months, the wound cicatrized. During the first year, slight muscular spasms at long intervals occurred, since which time, now five years from the date of the accident, he has enjoyed fine health, and is a laborious cartman in our city (Columbus).

2d case. Boy, son of James Bronson, of Columbus, fell from a porch on the brick pavement; the blow altered the form of the head; the "injury was sustained upon the superior left lateral region of the cranium." Usual symptoms of severe concussion. On the tenth day, there was drowsiness; on the eleventh, perfect stupor. Dr. T. discovered a separation of a line of fracture, which extended across the vertex of the head. He passed a lancet into the fissure of the fracture, an inch to the right of the longitudinal sinus, deep into the brain in the direction of the lateral ventricle; six ounces of limpid fluid were discharged. The boy opened his eyes, and within an hour spoke and took nourishment. The fluid continued dripping from the orifice for five days, when it was arrested by the closure of the opening; partial stupor returned. The Dr. reopened the orifice, and speedy relief followed; it was kept open till the discharge ceased, which was about the end of the third week. His recovery was slow, but so perfect as to have interfered but little with his physical development. He is now (five years from the time of the injury) a fine healthy boy.

An interesting case of abscess of the brain is given by Dr. Detmould, of New York, in the *American Journal of Medical Sciences*

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for January, 1850. This abscess was the sequel of a blow on the head 14th July, 1849. On 13th September, patient being deeply comatose and insensible, Dr. D. tapped the brain; a large quantity of pus was discharged; immediately the patient roused up as by magic, opened his eyes, put out his tongue, answered distinctly that he felt better. The patient continued improving. Ten days after the operation, fungus cerebri made its appearance. This was successfully treated, and the exposed part of the brain began to cicatrize. The patient was able to leave his bed about the eighteenth day after the opening of the abscess. About three weeks after the operation, he began to lose his memory. The failure was so rapid that, in a few days, he did not recollect his own name, or that of his wife or children. On 22d of October, he was in a condition approaching stupor. Another incision was made; no pus followed. Next day the patient was much better; the abscess, as afterward appeared, had burst into the ventricle. On the 28th of October, sixteen weeks after the accident, and about seven weeks after first abscess was opened, the Dr. made an incision, and passed an instrument an inch and a half into the substance of the brain; no pus followed. The probe was then passed into the ventricle, from four and three-quarters to five inches deep; no pus. A few minutes after the Dr. had left, the pus came freely from the wound. The patient died the same evening.

One of the most extraordinary wounds of the brain, followed by recovery, is reported by Dr. J. M. Harlow, in the *Boston Medical and Surgical Journal* for December 13th, 1848. The patient, Phineas P. Gage, had an iron tamping rod, three feet seven inches long, one inch and a quarter in diameter, and weighing thirteen and a quarter pounds, pass through his head, entering under the left zygomatic arch, and making its exit in the median line, at the junction of the coronal and sagittal sutures. This patient recovered, and, on January 3d, 1849, the report is that the patient is walking about the house, improving both mentally and physically. A friend writes us, April 27th, 1850, that "it is certain his mental powers are greatly impaired. This is stated by the family to which he belongs, and it is their belief that this degenerating process is still going on. He has also lost in bodily powers, though this fact is not so clearly manifested as the deficiency of his mental faculties."

Gunshot Wounds.—It is hoped that the following extracts on gunshot wounds and fractures, from Professor B. W. Dudley, may not be unacceptable to our professional brethren, inasmuch as but few

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of them, it is believed, are apprised of the treatment of these injuries for many years practiced by that eminent surgeon. They are taken from the *Transylvania Journal* for December, 1849, and April, 1850. We give Professor D.'s views in his own language, to prevent the possibility of misapprehension.

"A lacerated wound of the forearm and hand, opening the joint of the forefinger, and displacing the two flexors, sublimis and profundus; the upper limb separated from the shoulder by being caught between the wheel and body of a common wagon, the lower limb ground and drawn off above the knee by the machinery of a mill; the forearm and arm crushed by the iron cylinders used in a hemp factory; the ankle dislocated, with the capsule and integuments extensively opened; are among the hundreds of cases wherein the triumph of the bandage has been complete, in preventing inflammation, sloughing, suppuration, &c.; while, in place of these, the recuperative effort consisting in adhesive union has been established. In many cases of a like character, there would certainly be as much, and in some more inflammation and sloughing, than in gunshot; both being treated after the usual manner of this latter description of wound.

"A man received a gunshot in the upper and back part of the thigh; the ball ranged downwards and passed out on one side of the knee, thus traversing the whole extent of the thigh.

"A bandage about two inches broad, wetted by spirits, was applied closely from the toe to the knee, where it was fixed. Another bandage of greater width was then applied from below the knee up to and around the hips, with sufficient force to bring into close contact all the wounded fibres in the line of injury. All vacuity occasioned by the passage of the ball through the deep-seated parts being thereby removed, such of the fibres as may have been divested of all power of reaction from the intensity of the shock were immediately put under the influence of the absorbents, while others were placed in a condition most favourable to adhesive union. * * * * *

"On the tenth day, the first and only dressing in this case was removed, and the patient dismissed well."

By the accidental explosion of a pistol secreted under a young man's vest, he was severely wounded. The ball entered the integument in the epigastrium, coursed directly downwards, and passed out in the immediate vicinity of the right external abdominal ring; reentered, and opened the scrotum extensively on that side; and lastly, inflicted a large but superficial wound on the inner part of the thigh.

"This case was one of doubtful character upon which to demonstrate the importance of mechanical pressure in gunshot wounds. Equable and efficient compression can scarcely be made upon a surface subject to incessant motion, and especially when that surface to which the pressure is applied bears a close connection with the largest cavity of the human body. The experiment, however, was not without its practical results in behalf of pressure.

"A thick compress, of length and width equal to the rectus abdo-

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minis muscle, was placed immediately over the whole extent of the wound, and maintained firmly in its place by successive turns of a broad roller passing between the limbs, and around the hips in order to secure stability; and then as high as the chest, with a view to place the whole wound under the effects of the dressing. Quietude was enjoined, the dressings to be kept moist by the frequent use of spirits for the first four days; and every precaution to be taken to preserve the abdominal muscles as free as possible of motion. Upon the removal of the dressings eight days after they were applied, the wound had healed throughout by the first intention. Yet doubtless they were instrumental in the development of a large abscess immediately adjacent to and in advance of the ileum. When the matter was discharged, similar dressings with those for gunshot being applied, so as to embrace the entire vicinity of the abscess, and repeated three or four times within ten days succeeding, completed the cure. A single dressing of adhesive plaster and compresses was applied to the scrotum, while time was necessary for the restoration of integument on the thigh.

"Inefficient compression, whether made by the accumulation of blood in a wound, or from the application of dressings, develops hemorrhagic excitement, and causes thereby an alarming loss of blood from vessels which, under other circumstances, would elicit no attention: and although, by the aid of compression, union by the first intention was effected in this case, yet it is doubtful whether deep-seated abscesses can always be prevented by the same means, where the wound involves parts that are necessarily in motion, as connected with the great vital processes.

"Mr. P., at the time a citizen of the place, received a wound inflicted by a pistol of large calibre. The ball entered the right thigh, and opened the femoral artery, causing a gush of arterial blood, which projected several feet from either orifice. Passing in its course behind the bone of the left thigh, it inflicted a most distressing wound upon the left femoral nerve. Being in the immediate vicinity when the wound was received, I proceeded, with the least possible delay, to apply pressure upon the artery as it emerges from the cavity of the abdomen. The os pubis secures every facility to control hemorrhage from the femoral artery by pressure properly directed there. So soon as the clothing was cut away from the lower limbs, the services of a professional friend, now of Tennessee, were accepted, who took my position in the application of pressure upon the artery over the os pubis. When the dressings were in readiness, a roller was closely applied to the foot and leg. A thick pledget, wide enough to embrace both orifices of the wound, and reaching from the knee to the groin, was then bound firmly to its place by another roller beginning below the knee and extending up to and around the hips, the better thereby to secure the benefits of compression. The character of the weather to which we were exposed made it necessary, without farther delay, to remove the patient two miles to his lodgings, where appropriate dressings were put on the

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left limb from the toes to the hip. A cautious examination being now made into the effects of the dressing upon the right limb, in which evidence was satisfactory that all hemorrhage was effectually suppressed, and this too without any particular distress to the patient, it was concluded to place him in the hands of the nurse until morning, unless some incident should render more prompt action necessary.

"Next morning, the toes of the right foot, which were bare, being examined, gave evidences of some circulation; therefore, it was concluded to rely upon the agency of mechanical compression, so long as time and circumstances would justify the proceeding.

"Close watching for ten days in succession furnished no cause to regret, but much of hope, from the agency of the compress and roller. On the eleventh day from the reception of the injury, a slit was made in the roller behind the inner ankle, but without discovery of pulsation in the posterior tibial artery. The defect thereby occasioned in the roller was corrected by the partial application of another over the first. Three days subsequent to this examination, a second was directed upon the anterior tibial artery, where satisfactory evidence was present of healthful arterial circulation.

"On the eighteenth day from its application, the roller and compresses were removed, when the very agreeable evidence was set forth of union by the first intention having been completed with the exception of a little integument throughout the wound.

"Although the wound in the left thigh, notwithstanding the injury done to the nerve, healed not less kindly, yet, through all his confinement, and for many months after, he remained a sufferer, with pain and irregular movements of the muscles on the outer side of the leg and foot."

A gentleman received a pistol shot, which shattered the humerus a little above the elbow, and separated its condyles from each other. Preparations to meet casualties being at hand, he was immediately attended by my associate on the occasion. After cleansing, the integuments were drawn into contact, the fractured bone having been properly adjusted. Thick compresses on either side, corresponding with entrance and exit of the ball, with those of less thickness in front, were applied and sustained by a roller closely put on from the fingers to the shoulder. The disunited condyles were thus placed, and fixed immovably in close contact; the integuments maintained in close approximation; the mutilated soft parts sustained free of all engorgement; all atmospheric influence excluded; the entire limb was preserved free of swelling, of inflammation, of deep-seated abscesses; while the muscles were kept in a perfectly passive state. These dressings were moistened for the first four days, and then permitted to remain undisturbed for eight days after. The compound was thereby converted into the simple fracture; the re-union of the condyles by bone was complete; the muscles regained their power over the limb; and at the expiration of a month the use of the arm was restored.

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The intelligent of the profession are doubtless surprised that, in this case, splints and machinery to control muscular contraction and prevent deformity should be overlooked; yet in science, as well as in practice, to remove the cause is certainly preferable to making battle with the effect.

Being long convinced of the error propagated in the profession regarding the peculiarity of these (gunshot) wounds, my solicitude, in all cases which have been placed under my charge, has been, by the aid of properly adjusted pressure, to preserve the surfaces of the interior lacerated fibres pressed closely together; to close the cutaneous openings, and confer thereby all the advantages upon this wound, which are known to attend one from subcutaneous section; to prevent all tumefaction, inflammation, and its consequences by the skilful distribution of pressure above, below, as well as upon the seat of the injury; to apply the dressings with that very moderate force only which is necessary to secure these purposes, and which at the same time imposes unconditional quiet on all the muscles involved in, or associated with, the wounded part.

Fractures.—"When a broken limb is skilfully encased in a sheath of properly prepared canvas, which is made to embrace and compress equally all points of the surface, not only contraction, but all susceptibility to muscular action, is thereby effectually suspended.

"The time and manner of its application are subjects especially worthy of consideration, and of the exercise of skill. All the muscles, which are to be placed under its control, should be thoroughly extended, provided they are in a state of preternatural contraction, preparatory to the application of the roller; while the force exercised in applying it must be in proportion to the amount of cellular tissue in the limb, or of the interstitial deposit, which may have been the product of effusion or of inflammatory action in the part.

"The muscles of a limb are thereby constrained to a perfectly passive state, of which fact a moment's reflection upon the conditions necessary to contraction will satisfy the most skeptical.

"The pain and suffering consequent to isolated pressure, the spasmodic movement of the muscles under the influence of machinery, are unknown to the subject of the roller, when this is skilfully applied; whether he is resting quietly upon a couch, or subjected to the flying ambulance upon the field of battle: nor is difficulty experienced, or pain induced, in the removal and reapplication of the roller, as this may be required, either with a view to adapt it to the reduced size of the limb, resulting from interstitial absorption, or for the purpose of removing soiled dressings. An extension of the limb, with a power only equal to its own gravity, when it is elevated, for the purpose of removing and reapplying the roller, is accomplished without displacement, or the production of pain.

"Fractures are occasionally attended by such a profound shock to the sound parts, that the blood-vessels become extended beyond

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their capabilities for healthful reaction; while at other times destructive inflammatory excitement supervenes to the injury.

"These two opposite conditions, each involving immediate danger, cannot occur under the influence of a well-adjusted roller, while all the resources of the profession besides are not equal to this in controlling them when they have supervened.

"Morbid contractions of the muscles, attended by pain, swelling, and inflammation, succeeding to fracture, are the usual consequences of inappropriate treatment; and it is an extraordinary fact that authors of the highest celebrity enjoin upon the surgeon a practice, which renders deformity and imperfect use of the part almost certain; while symmetry and utility may, in many such cases, be perfectly restored under the influence of a different treatment, which is not less rational than successful. Sir Astley Cooper directs *circular bands*, and Mr. Lonsdale advises *iron clamps* moved by the *power of the screw*, with a view to approximation of the fragments of a fractured patella; and special instructions are given to withhold these means of traction, until, by the patient use of discutient embrocations and poultices, all inflammation and swelling have subsided; and even then, should swelling or inflammation recur, the approximating powers, whether these consist in *circular bands* or iron clamps, driven by screws, are to be forthwith removed.

"From eight to twelve days may be occupied in reducing the swelling and inflammation, preparatory to the application of the bands or iron clamps; and nature is not idle during this irreparable loss of time. A large amount of secretion will have taken place, both within and without, as well as in the vicinity of, the fractured bone and injured capsule. Under circumstances like these, all efforts at a conjunction of the fragments of bone would be as futile as to propose to bring into contact the opposite sides of a distended sac. The *iron clamp*, driven with the power of the screw, could not accomplish it, except by producing a greater evil; hence, a union of the broken fragments through the medium of the ligament is the result of this treatment of fractured patella.

"A gentleman from South Carolina, Mr. R., fractured the patella of the right side in a fall upon the steps of the hotel during a sleet. In half an hour after the accident, I found the joint flexed, with the fragments of patella three inches around.

"The limb was sponged with warm water, and two rollers were made wet with spirit. A narrow roller was evenly applied, without force, from the toes to the knees, and then made fast. When the superior fragment of the bone had been brought into place by an assistant, with the aid of pressure applied upon the front and upper part of the thigh, a broad roller, after being fixed around the hips, was brought down upon the thigh. With every successive turn of this, the soft parts were pressed gently before it, and finally presented a superfluity about the knee, where this roller was made fast. It now remained to adjust the fragments in apposition and to give them proper protection. With this view the roller upon the leg was

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continued over the knee. By oblique turns of this, made to embrace the superior and inferior fragments alternately, they were approximated, and, when fairly adjusted, the obliquity in the roller was regularly diminished, until, by transverse turns, equable and efficient compression was applied to all points of the surface.

"The fragments were thus immovably placed in contact, and under the best possible protection against swelling, inflammation, and all irregular motion of the limb. The surplus portion of the narrow roller upon the leg is best adapted to the purpose of securing the quiet condition of the bone, and also to place the knee and lower portion of the thigh free from danger of swelling and inflammation. This dressing was not disturbed until the tenth day, when its looseness, caused by interstitial absorption in the limb, rendered it necessary to remove and reapply it after the same manner.

"At the end of the third week, ossification between the fragments being complete, the dressings were removed the second and last time. Within the fifth week from the day on which the injury was received, the gentleman left Lexington on a visit to an adjoining State.

"He had traveled but a few miles, when, losing his glove in a rivulet, he dismounted from his vehicle, passed a fence enclosing a marshy meadow, when, in making a violent effort to extricate himself, the patella was re-fractured.

"Returning to town after encountering some delay, I found the limb greatly swollen with the fragments of bone, separated from four to five inches. So soon as the limb was well sponged with warm water, and the rollers were made wet with spirits, the foot and leg were dressed with the narrow roller, as upon the first occasion; the superior fragment being drawn down as far as practicable, with the aid of an assistant, from the upper to the lower part of the thigh, but not placed in contact with its fellow, because of the insuperable difficulty presented in the extensive effusion and swelling. The roller on the leg was then continued over and around the joint, giving protection to the surface up to the termination of that upon the thigh; and, although drawn with all the force that could be given to it, very little, if any, additional approximation could be effected.

"The very close application of the roller to the thigh and knee, upon this occasion, produced an agitation of the limb, with each pulsation, not unlike what is often seen about the head in cases of high febrile excitement. This was temporary, however, and subsided under the rapid absorption excited by pressure.

"In twelve hours, the dressings were so loose as to make it necessary to remove and reapply them; and for five days in succession the continued absorption of the effused and secreted fluids indicated the necessity of increased pressure by means of the roller. At the conclusion of that period, the two fragments appeared to be in as close approximation as was compatible with the thickened condition of the soft parts, which, by reason of the irregular surfaces of the bony structure of the joints, eluded the direct agency of pressure.

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At the end of the sixth week, ossific union was complete, attended by a profusion of ossific deposit; which disappeared some months after, under the use of the limb."

"That distressing disease which attacks the terminal phalanx of the thumb and fingers, the bone felon, is followed by the loss of bone and soft parts, as high as the second joint. In the early stage of the disease, and before suppuration has taken place, it may always be promptly cured by the close application of the roller, using the precaution to destroy the sensibilities of the part first, by gentle and progressively increasing pressure with the hand for a few minutes; or the part may be laid open with the scalpel, and the morbid secretion removed from beneath the periosteum upon the point of the instrument. But, when suppuration has taken place, and the matter is discharged by ulceration, an early occasion must be sought to remove the phalanx by wrenching it off from its connections with the capsule, ligaments, and cartilage of the joint.

"When the extraction of the bone is delayed for some weeks after ulceration has taken place, some flatness or a dimple, on the ball of the thumb or finger, is liable to be present after recovery. When the extraction of the bone by forceps is attempted too promptly, its connections with the soft parts composing the joints will not yield to the instrument; while no difficulty will be encountered after waiting from ten to twelve days. In this stage of the disease, the soft parts will be found in a tumid state, and, by gentle pressure in the palm of the hand, progressively increasing, much of the diameter may be thrown into the longitudinal dimensions of the swelling.

"When this is accomplished, which may be done in three or five minutes, an appropriate roller must be closely put on, embracing each phalanx of the affected thumb or finger, which must be renewed as often as indicated by the subsidence of the swelling.

"From fifteen to thirty days is generally occupied in a reproduction of the phalanx. Sufficient pressure must be applied to preserve the proper length of the bone; while care may be taken to avoid so much as would give it an unnatural extent—an occurrence which appeared in a case under my charge, in the family of a cotton spinner of this place, Mr. P., who threatened a suit at law to recover damages, on account of treatment which rendered the thumb too long. Quite recently, a young lady of this place returned home from a boarding-school abroad, where she had for some weeks suffered with the ulcerated stage of bone felon on the thumb. The bone was forthwith removed by means of a pair of forceps, and the phalanx was reproduced under the influence of three or four dressings; but there is to be observed a small depression in the ball of the thumb. Similar cases, for the last twenty-five years, have been of frequent occurrence, with invariably successful results.

"Two of my young professional friends of this place were called, some years since, to a supposed case of dislocation of the head of the femur. By the usual methods of extension the supposed luxation was reduced. The quick spontaneous recurrence of displacement,

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two or three times, aroused suspicions which led to further inquiry and to the discovery of fracture of the cervix femoris. The necessary rollers being prepared, that for the foot and leg was immediately applied: and when the muscles about the hip were thoroughly extended, as indicated by the proper length and mobility of the limb, the other roller was put on after the manner described in the preceding cases. As the subject was very young, that immobility of the fractured bone which is necessary to success was secured by making a splint of the sound leg, to which the injured one was tied by regular folds of the roller. A long pad, stuffed with cotton, placed between the two limbs, prevented irregularity of pressure. Very little embarrassment was encountered in carrying out the treatment of this case with the most gratifying results, and nothing now remains to indicate a former injury.

"The virtue of the bandage in conferring immediate quiet upon the sufferer from spasmodic movements of the muscles of respiration, notwithstanding the disadvantages presented by the thoracic cavity, to which its influence is transferred and measurably lost, are known and promptly secured by every surgeon.

"The immediate benefits resulting from its application, in every case of fracture involving the central and most movable of the ribs, are well calculated to convince the surgical skeptic. Fractures of the superior ribs forbid all dressings which may impose restraint; and, as in the case of those of the clavicle, the subjects of them are placed most at their ease, while their safety is secured, by paying due regard to position.

"A bandage wet with spirit, and then well stretched in the rolling, if applied to a broken limb, in an extended state of the muscles, presents an effectual barrier to all muscular contraction, either voluntary or spasmodic; although the force used in its application may be only barely sufficient to render the pressure equable at all points, and to secure a smooth dressing."

Professor D. gives several other very interesting cases; three of fracture of the neck of the thigh bone, in which, he assures us, the results were entirely satisfactory.

We do not intend to occupy much time in commenting upon the views and illustrations of Professor D. on the treatment of gunshot wounds and fractures. In our city hospital, we tried the wet bandage in the manner of Professor D. in a gunshot wound, in which two bullets passed through the thigh from the inner to the outer side, at the distance from each other of about four inches, the upper one being about three inches below the level of the middle point of Poupart's ligament. There were four wounds, indicating the entrance and the exit of the bullets. These wounds healed wholly without suppuration. They were, however, very favourable for the operation of the bandage. There was but very slight hemorrhage; integument

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and muscle seeming to be the principal tissues implicated. The patient, a young man, was soon discharged cured. In a few months, he was brought again to the hospital, and on his arrival was found dead; from what cause, is not known. We examined the cicatrices of the wounds, and traced them from side to side beneath, a thick muscular mass, just anterior to the thigh bone.

We have also treated, in our hospital, with a very fair result, a bad case of compound comminuted fracture of both bones of the leg, with the bandage only. The patient, a young man, was not brought in until the second day after the injury, when there was a good deal of swelling, and constant hemorrhage; too much to admit of the sticking of collodion plaster, which was tried with a view to shut out the air. There was a good deal of suppuration, which continued for a long time; a considerable piece of the tibia exfoliated, and was taken away two months and a half after the injury; the fracture was consolidated, and the patient discharged, in three and a half months, with his leg at its full length, having no bump at the point of fracture, nor mal-position of the foot. A small ulcer, however, still remained upon the shin.

Prof. Dudley may be emphatically styled the hero of the bandage, having accomplished more with it than any other surgeon we know of; and we are glad of an opportunity of bringing his views before the profession. Still, however, having, in our own practice, witnessed bony consolidation of a transverse fracture of the patella, which allowed the patient to walk well in eight weeks; especially having witnessed, in two cases of fracture of the neck of the thigh bone *within the capsular ligament*, treated by permanent extension, a perfect bony union, as proved by actual inspection of the specimen several years afterwards, in post-mortem examinations, we are free to confess that, were we left in such cases with the bandage only, we should not proceed without misgivings and fear; and should readily accept aid from a hand more experienced in those difficult manipulations than our own.

If there be those who regard Prof. D. as over-estimating the importance of his inventions, let them apply the test of experiment, beginning with the more simple and proceeding to the more complicated cases, until, by personal observation, they shall feel prepared to decide how much, if any, allowance is to be made for the feelings of paternity which intellect and genius may rightfully indulge towards the objects of their own creation.

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Prof. F. Hamilton, of Buffalo, gives a case in confirmation of Prof. Dudley's treatment of bone felon.

He says, "I have succeeded, under the continued application of the roller, in reproducing, or in seeing reproduced, a new phalanx of bone as complete as the original, and with the articulating surfaces as perfect as before, and also its motions. This has not been demonstrated before to my knowledge, except by Dr. Dudley. To him is due the credit of the discovery. A piece of tape makes a convenient roller; and the only precaution necessary is not to lengthen the phalanx too much by too firm or too long-continued pressure." A reasonable precaution certainly, if, as in Prof. Dudley's case already given, the surgeon may incur the liability or the threat of a suit at law, for making too long a finger. Prof. H. has sent us a plaster cast of the removed bone, which has been reproduced; evidently the entire perfect bone, the terminal phalanx of the thumb.

Prof. Horner reports a case of compound comminuted fracture of the leg just above the ankle, whose several fragments were immediately taken out, the proximate ends of the bones squared off with a saw so as to make a good fit, and the bones finally uniting firmly with a loss of length from one and a half to two inches. "Without which treatment, immediate or ultimate," the professor remarks, "amputation must have occurred."

In July, 1849, a wagoner, of about thirty years of age, in a state of intoxication, had his leg crushed by the wheel of his wagon, on which were fifty barrels of flour, passing over it. It was a bad compound, comminuted fracture of both bones, a little above the ankle, and came under the charge of the chairman of this committee within an hour after the accident. There was very little hemorrhage. The wound was covered with strips of muslin moistened with collodion, so that the air was effectually excluded; the limb was bandaged, and laid upon a padded, longitudinal, half-boot splint. This was towards evening; the patient was too drunk to recognize his situation till the next morning. Almost no swelling or inflammation followed. The compound fracture was reduced to a simple one; there was not a drop of pus observed; and the fracture was consolidated in about five weeks.

Ununited Fractures.—Prof. George F. Sandford, of Davenport, Iowa, gives two cases of successful treatment of ununited fracture by subcutaneous scarification of the ends of the fragments.

One was that of a robust man, twenty-six years old, but of intem-

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perate habits. The false joint had existed more than a year. Prof. S. used a needle somewhat resembling a common pointed tenotome, but stronger. This was passed down to the part in an oblique direction, and moved freely every way so as to divide the fibro-cartilaginous substance attached to the end of one fragment, and then it was passed in at another point, so as to operate in the same way upon the other fragments. The limb was placed in the fracture box used in the Pennsylvania Hospital.

The next day the part was distended with blood; cold applications were made and continued twenty-four hours, by which the pain and heat were relieved. During the subsequent two weeks, there was occasionally transient pain in the part; at the end of which period, the immovable apparatus of Velpeau was applied and kept on for *six* weeks. During the latter part of this time, the patient moved about freely. On removing the apparatus, the fracture was found to be firmly consolidated.

The second case was that of a man thirty-eight years of age, who had had ununited fracture of the tibia for three years. The same course was pursued, with the like results.

Dr. D. McRuer, of Bangor, Me., has treated successfully, during the last year, a case of false joint with galvanism. The fracture was in the tibia and fibula of an aged female, and remained without union for *eight* weeks. The current was applied twice a-day, in the direction of the leg, by Davis' magneto-electrical apparatus; the positive pole to the upper part of the leg near the knee, the negative near the ankle. In four weeks, the process of union had proceeded so far as to justify the removal of the splints. Dr. McR. remarks "that the success of this solitary case deserves a repetition of the experiment."

The chairman of your committee has treated with entire success, in the Commercial Hospital of this city, six cases of ununited fracture by Amesbury's method of permanent compression, lateral and longitudinal, of the fragments upon each other.

Dislocations.—Professor Pope mentions his having reduced a dislocated hip while the patient was rendered insensible by an anæsthetic. The particular interest in this case arises from the rareness of the variety of luxation; the head of the thigh bone being "in the perineum," "a true diagnosis," says the professor.

Dr. Josiah Crosby, of Manchester, New Hampshire, reports an extraordinary reduction of a dislocation of the hip, which he accom-

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plished by Jarvis' adjuster on the sixty-eighth day. The patient was kept under the influence of chloroform: the traction lasted four hours.

Professor W. L. Atlee mentions "a recent case of dislocation of the hip, of *four months' standing*, in which the pulleys had failed soon after the accident, successfully treated by anæsthesia and Jarvis' adjuster. After arranging the adjuster, and rendering the patient insensible, the limb was easily restored in about one minute. So completely was the rigidity of the muscular system overcome, that no sound was produced by the head of the bone entering the socket. Professors Darrach and Grant were in consultation with me in this case."

This is probably the most remarkable case in the records of surgery.

Professor Dixi Crosby, of the Medical Institution at Dartmouth College, New Hampshire, refers to two cases of backward dislocation of the ulna and radius of long standing, causing false anchylosis; treated by forcibly bending the forearm so as to fracture the olecranon, then applying extension and reducing the luxated radius, then flexing the forearm and securing it with splints, and during recovery supporting it at different angles. "There is," says Professor C., "but little impediment to any kind of action."

Several months ago, we treated a case of the kind on the same principle, with the result of a power of semi-extension of the forearm and flexion to an angle slightly acute with the upper arm.

Professor Crosby refers to the method of reducing the first phalanx of the thumb from its backward dislocation upon the metacarpal bone, invented by him in 1827, and successfully practiced in many cases since.

"I tilt the dislocated phalanx up until it stands upon its articulating end, place both forefingers so as to hold it in that position, and at the same time press against the distal extremity of the metacarpal bone. Make firm pressure with the thumbs against the base of the dislocated phalanx and slide it into its place, which can generally be accomplished with ease.

"More than twenty-five years ago, the chairman of this committee, from attention to the mechanism of the metacarpo-phalangeal joint of the thumb, convinced himself that the principal impediment to the reduction of the first phalanx from backward displacement is the short flexor of the thumb, between the two portions of which (lying close together where they are fastened to the sesamoid bones) the head of the metacarpal bone has been thrust, the contracted part or neck of this bone lying firmly grasped by them. Fifteen years ago, a case occurred of this dislocation which he could not reduce in the ordinary way. A subcutaneous division of one of the heads of this

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muscle was made with an iris knife, and the reduction was accomplished with the greatest ease.

"Last year, another case occurred in which we failed of reduction by Dr. Crosby's method, which we believe to be the best, and the subcutaneous division of both heads of the muscle was made, and the reduction instantly effected. The punctures were covered with collodion and the thumb supported by a splint. As the patient was intemperate, entire abstinence from liquor and the adoption of a light diet were enjoined. Neither pain nor inflammation followed, and a month afterwards the joint had free motion. After the intemperance and irregular habits were resumed, the joint in a few weeks was found anchylosed.

"In these cases, the knife in the subcutaneous operation was carried down to the metacarpal bone, so far behind its head as to preclude the possibility of mistaking the lateral ligaments for the muscles. These ligaments are very short and inserted close to the articular surfaces, and are probably, one or both, ruptured in this dislocation."

Traumatic Tetanus.—Professor A. B. Shipman, of Syracuse, New York, one of your committee, has treated successfully a case of traumatic tetanus with the inhalation of chloroform.

The patient, a boy of fifteen years, received a wound in the left side of the perineum from a stick thrust into the soft parts six inches. "The wound suppurated freely, and was healing," when, on the seventeenth day, preliminary symptoms of tetanus appeared, and were confirmed the next day, when Professor S. saw him. As the bowels were constipated, active purgative was given, to be followed by free doses of morphia. This course was followed; but the symptoms became more severe, and on the 20th, viz., the third day after the Professor first saw the case, "suffocation seemed inevitable." At this time, chloroform was tried. Ten drops on a linen handkerchief, repeated every ten minutes. From this time the chloroform was almost solely trusted to, no other medicine being employed than an occasional laxative. So striking was the effect of the chloroform that, on the approach of a paroxysm, the patient would cry out for 'the sponge,' on which it was given. From the eleventh day of the spasms, at which time the symptoms had become mild, the recovery was rapid, although for a few days a slight spasm occurred when the patient awoke from sleep. Professor S. very properly remarks: "I look upon this case as one of great interest, from the generally fatal terminations of cases of traumatic tetanus. All the usual remedies were first tried in the case with no apparent benefit, and chloroform only resorted to when the patient was thought near his death."

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The following case was under the charge of Dr. J. S. Dodge, of Cincinnati, and was seen by the chairman of your committee in consultation.

Geo. Hall, æt. 29, received, last December, a wound with a foot adze just below the malleolus internus. In four days, he went to his work, and worked at intervals for three weeks. A clear liquid, probably bursal fluid, was discharged from the wound. In six weeks from the injury, spasms came on. For one week they were very severe; there was opisthotonos, rigidity of the abdominal muscles as well as those of the jaws. Morphia and alcohol were used freely, and sinapisms over the spine, with a palliative effect only. Chloroform was at length tried by inhalation, and the foot and ankle covered with a compress, kept moist with a mixture of chloroform and alcohol. Relief was given in two or three days, pus instead of a clear liquor was discharged from the wound, and, under the continued use of the chloroform (the inhalation being always repeated on the return of the spasms) for two weeks, a cure was accomplished.

A case successfully treated with sulphate of quinia is referred to as follows by Dr. W. L. Sutton, of Georgetown, Ky.

"I have this day seen my young friend Dr. Eurison, and conversed with him upon his case of traumatic tetanus. He tells me that the first dose of quinine, *half a drachm*, produced a most marked and satisfactory effect upon the skin, which, before the medicine was taken, had been bedewed with a clammy perspiration for two or three days, but soon after became of good temperature and sufficiently dry. Inasmuch as *half a drachm* acted so well, producing no unpleasant symptoms, he was encouraged to give *a drachm*. This, however, caused so much ringing in the ears, and deafness, that he was induced to return to *half drachm* doses once a day. The patient took more than an ounce of quinine, and has remained entirely healthy. The case is reported in the *Western Journ. of Med. and Surg.* April, 1850."

Neuralgia cured by the local application of Chloroform.—Prof. Shipman reports two cases of neuralgia of the sciatic nerve successfully treated by the local application of this agent.

The chairman of your committee treated a case of lumbago, of some years standing, in this way, with so much relief as to leave the patient comfortable, and scarcely without complaint, for several months.

Another case of neuralgia, which had existed for two years in the sole of the foot, the origin of which could not be satisfactorily learned, as the patient appeared in all other respects to be healthy,

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was attended with such intense suffering as to cause at times the most piteous outcries, was speedily relieved, and a cure apparently wrought in three weeks, by keeping the foot covered with compresses moistened with chloroform and whisky. The patient has not since been heard from, now a year and a half.

Dr. Driesback, of Tiffin, Ohio, reports, in the *Western Lancet*, of April, 1850, two cases of severe and protracted neuralgia: one following blood-letting at the bend of the arm; the other, from the introduction of a seton over the cephalic vein, cured by excision of the cicatrices of these small wounds.

Traumatic Epilepsy.—Prof. G. Kimball reports an interesting case* of epilepsy in a soldier from Massachusetts, who was shot on the 28th September, 1847, in the battle of Molino del Rey, in Mexico. There was a bullet wound in the neighbourhood of the hip, and the bullet was neither extracted nor found. Ten months from the date of the injury, he was attacked with a violent paroxysm of epilepsy. Three weeks after, he had another fit, and afterwards, once in two or three weeks, the fits recurred until the latter part of October, 1848, when Prof. K. saw him. On exploring the fistulous opening, he could not find the ball; but proceeded to the operation, which was evidently conducted with skill. He at length succeeded in finding and extracting the bullet which lay "near to, if not in contact with, the sciatic nerve." The wound healed; the patient's health, which had been much impaired, was soon restored; and from the time of the operation to the date of Dr. K.'s paper, Feb. 1849, there had not been a fit.

Nævus.—Prof. Shipman treats "erectile tumours of all descriptions" with ligature and pins, the latter to prevent the ligature from slipping off. In this way, a "cure is effected without deformity."

Dr. J. D. Elbert, Southern Iowa, treats them with the red hot needles.

Prof. Hamilton proposes the subcutaneous ligation of the tumour at its base.

Dr. Driesback, of Tiffin, Ohio, applies creasote twice a day till an eschar forms. After this has fallen off and the surface healed, the creasote is reapplied as at first. By repeating this procedure, a cure, he informs us, is always effected. If the application of the

* Boston Med. and Surg. Journ. Feb. 14, 1849.

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simple creasote prove too irritating, as is sometimes the case with children, the Dr. dilutes it with oil or water.

Prof. Brainard mentions his having cured several cases by the application of collodion simply. By its contractile property the volume of the tumour is diminished. Whenever the dry crust of collodion falls off, a fresh portion is to be applied. He has seen nævi of considerable size cured, and believes that this plan, if persevered in, is adequate to the cure of those which are very large.

Nasal Polypus.—Dr. D. McRuer, Bangor, Me.—For the removal of gelatinous and other soft polypi of the nasal passages, I have been for some years in the habit of adopting the following method, which, as far as I know, is original with myself, and has not yet been reported in any medical publication. A piece of catgut is passed from the nostrils to the mouth, to which is fastened a piece of soft and dry sponge, corresponding in size, when firmly compressed, to the narrowest part of the nasal passage; it is then gently drawn forwards by the posterior fauces through the nose, and in my experience of at least ten cases, it has never failed to bring with it all the morbid growths much more effectually and easily than could possibly be accomplished by the old methods of forceps, ligature, &c.

Hare-lip.—In those revolting cases of cleft hard and soft palate, with double fissure of the lip, exhibiting a portion of integument adherent to a peninsular mass of the upper jaw which is sustained by the septum of the nostrils, the results of most operations have not been altogether satisfactory, as may be inferred from the variety in the modes of operating suggested by different surgeons.

Last winter, a healthy child of a year old, with this deformity, was brought to the chairman of this committee for an operation. The peninsular portion of the jaw was large, three-fourths of an inch or a little more in its lateral diameter, projecting precisely in the horizontal direction, with a tooth sticking out in front.

In the operation, the tooth was extracted, and then a triangular piece of the bony septum was cut out at two snips with a strong French scissors, and the septum still further divided upward by a single snip with the same instrument. The peninsular portion was then forcibly pushed downwards and backwards till its integument, which had looked directly upwards, now looked forward. Upon this a compress about three-fourths of an inch thick, made of a strip of sticking plaster firmly rolled up, the plaster side out, was laid, and

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secured by a single adhesive strip narrow in the middle and broad at the ends so as not to glide upon the cheeks, and long enough to reach nearly to the ears. This application was readjusted every day or two for a week, when the peninsular part remained stationary and in its proper place.

At this time, the operation was completed by scarifying the lateral portions of the lip so as to give each a concave freshened margin. The edges of the integument upon the median or peninsular part were so paired as to form a triangle, the point of which was downwards. The raw edges were then brought in contact and secured by the interrupted suture, the stitches being passed through the entire thickness of the lip at the distance of about one-fifth of an inch from the margin.*

The lateral portions, extending a good way below the median portion, brought in contact with each other, made a deep lip. The stitches were removed in forty-eight hours; adhesion throughout was complete. The parts were supported by an adhesive strip, replaced every second day for a week longer.

The result in this case was most satisfactory. The nostrils were natural, the lip deep and full, not notched at its lower edge, nor flattened in front, as is the case when drawn across a wide fissure.

Tracheotomy.—Dr. Evans, of Covington, Ky., details a case in the *Western Lancet* for April, 1850, in which he performed tracheotomy for symptoms of suffocation in a child, caused by the inhalation of the vapour of hot water. The operation was well performed, and the patient recovered. The result is valuable in giving encouragement to surgery in similar cases.

Laryngotomy.—This operation was performed, a few weeks since, by the chairman of this committee, in a manner a little different from the ordinary procedure. A lad of fifteen had got a "clot bur" or "cockle bur" (xanthemum strumarium) into his larynx, two days before he arrived in town. He could not speak above the whisper; complained of pain and tenderness in the right side of the larynx; and had paroxysms of great difficulty of breathing.

In the operation, the cricoid cartilage and the crico-thyroid membrane were divided, and repeated attempts to introduce a small toothed forceps, such as is used in operations for strabismus and

* We have not used *pins* in operations for hare-lip these thirty years.

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pterygium, caused in a moment of convulsive coughing. A small silver director, bent into an obtuse angle about three-fourths of an inch from the end, was passed upward between the vocal chords, and drawn forwards so that its grooved sides should rest firmly against the posterior surface of the anterior part of the thyroid cartilage; this cartilage was then slit up almost to its upper edge upon the median line, the patient having been exhorted to make a strong effort to avoid coughing or breathing while this was being done. After the lungs had been made easy by a few respirations, the patient being again directed to suspend breathing, the point of the finger, selected as the best instrument for distinguishing and dislodging the foreign body and preventing it from dropping into the trachea, was passed into the opening; the bur was felt and dug from its bed in the ventricle of Morgagni, and pushed up, through the chink of the glottis, upon the root of the tongue; then discharged by the boy spitting out upon the carpet. A considerable stream of blood followed for a few moments, owing to the lesion, and inflammation of the parts in which the bur was imbedded. This bur was olive-shaped, half an inch in length, its surface being covered with stiff and sharp prickles.

The wound healed kindly, and the voice returned on the twenty-first day. It came in a singular way. Having fallen out of temper with one of the servants of the family, the patient commenced giving her a scolding, but, finding that this exercise in the form of a whisper was without effect, he broke into a full tone, which was retained afterwards.

In case of foreign bodies lodged in the larynx, the thyroid cartilage may in this way be safely slit open between the vocal chords, and an opening made sufficient to admit the best instrument, the finger.

A surgeon once showed me the ring of a watch chain which he took from the larynx of a child after death. He might have exhibited it with more complacency had he succeeded in his attempt to remove it before death.

Excision of the Upper Jawbone.—Professor Atlee reports an improvement which he has made upon Liston's directions for removing the upper jaw.

"In Liston's operation, the malar bone is separated from the frontal horizontally at the transverse facial suture, and the nasal process of the maxillary bone is also sawed horizontally; conse-

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quently, the whole floor of the orbit is removed, and, this being the support for the eyeball, the latter necessarily *falls*, producing great deformity and inconvenience, and rendering the eye useless."

Professor A. tells us that his improvement consists in "*sawing through the frontal process of the malar bone and the nasal process of the maxillary bone, both obliquely-downwards, towards the floor of the orbit, not entirely through, and then, by means of a lever in the notches, scaling off the internal and external borders of the orbit, that they may remain as a future support for the eyeball and lower lid.*" He mentions an operation by himself, and one by his brother, performed in this way with the most satisfactory results.

It has been a query with us whether Mr. Liston's directions were not given in a loose way, without due attention to the anatomy of the parts. It has seemed scarcely possible that so eminent a surgeon would allow himself to break up the connection of the malar with the frontal bone and the great wing of the sphenoid, and to take away the anterior part of the external wall of the orbit, merely for disease of the upper maxillary bone.

The chairman of this committee has, in three unpublished cases—one ten years ago—removed the upper jaw, in all of which the position and motions of the eye were *perfect* ever after. In these cases, the maxillary was separated from the malar bone by running a narrow saw downwards and outwards from the orbit, through the latter bone just outside of the malo-maxillary suture, nearly parallel with that suture, and extending the cut to the spheno-maxillary fissure. The nasal process was sawn at its base downward and inward from the orbit to the nostril, to disturb as little as possible the lachrymal canal.

Professor Horner, in the *Medical Examiner* for January, 1850, reports a case of excision of a tumour of the upper jaw, with the removal of a great part of this bone through the mouth, with entire success. This procedure, adopted to save the patient from a scarred face, is praiseworthy when practicable, but, in cases of large tumour, the cheek must be cut.

In the summer of 1845, Miss L., a beautiful young lady of seventeen, submitted to an operation, by the chairman of this committee, for osteo-sarcoma of the left side of the lower jaw, involving most of the ramus, the whole of that side of the body, and extending an inch on the right side of the median line. It was an object to preserve the symmetry of the mouth by sparing the facial nerve. This was accomplished. The incision through the integuments was

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commenced below the transit of that important nerve and of the duct of Steno.

The bone was sawn more than an inch to the right of the symphysis, was freed from the soft parts, and disarticulated by carrying the dissection close to its surface.

The symmetry of the mouth was perfect; and, after an ingenious dentist had supplied the place of the removed jaw by an artificial one, the beauty of the whole face was but slightly marred. This excellent young lady remained entirely free from disease for about three years and a half, when she lost her life suddenly by being thrown from a carriage. We are not aware of any other case in which the disarticulation of the lower jaw has been accomplished by surgery without dividing the facial nerve.

Cataract.—The following communication from Prof. Pancoast, of Philadelphia, contains something new, and is well deserving the attention of the profession.

A simple and successful method of displacing hard cataract by lateral traction.—The removal of the opaque lens by the common couching process, when it is found too hard to admit of division without rolling on its axis, is, I believe, admitted to be greatly superior, in its general results, to any other process. But the success attending this mode of operation is not by any means so great as could be desired.

In the hands of the most skilful operators, complete success is not obtained, perhaps, in more than six cases out of seven, the general average being infinitely below this.

The causes of failure may be said to consist in the subsequent re-elevation of the cataract; in the violent rupture of the delicate mechanical connections of the inner tunics of the ball made at the time of operation; in the injury of the iris and ciliary processes inflicted by the needle, or caused by the pressure of the lens, couched improperly so as to press against these sensitive and probably muscular structures; in a severe disorganizing inflammation speedily following the operation, or one of a more chronic character which finally leaves the retina amaurotic.

I have, for a considerable time, been carefully engaged in endeavouring to find a place by which I could as far as possible diminish these risks, and increase the average of successful cases. The following method, which, so far as I am aware, is in its main features a new one, I have practiced during the last two years in about twenty

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cases of hard cataract, without any permanent failure, and with surprisingly little, and in most instances, no apparent pain or inflammation.

In the first place, I keep the iris, for several days previous to the operation, thoroughly dilated by the application of belladonna. I next carefully avoid the insertion of the needle at the point commonly directed, three-twentieths of an inch behind the junction of the cornea with the sclerotica, for I believe this is done at imminent risk of wounding the sensitive ciliary body. I adopt the operation of hyalonixis, puncturing the sclerotic coat at a distance nearly equal to the diameter of the lens behind the margin of the cornea.

The needle I employ is modelled after that of Scarpa, but with a longer and more sudden curve, and reduced to the smallest size allowable in order to have it to pass through the sclerotic coat, so that I may, with its diminished bulk, disturb as little as possible the interior structures of the ball. A curve of the needle almost amounting to a rectangular turn I deem indispensable.

The needle, after it has entered the hyaloid humour, is carried forward in the usual manner, so as to break between the edge of the lens and the ciliary body into the aqueous chamber, at a point where the hyaloid tunic forms alone, in all probability, the posterior wall of that chamber—and in doing this the ciliary processes or the iris need not be touched.

The needle, after being made to divide the capsule of the lens in the usual manner, is to have its hooked part sunk into the centre of the lens. The lens, instead of being pressed down as in the ordinary process of couching, is to be gradually drawn horizontally backwards, through the same track by which the needle has passed, to the place of puncture made in the sclerotic coat. The handle is then to be depressed and the needle detached from the eye. By this process the eye is as little disturbed as possible, and the lens rests in the interior of the hyaloid tunic, and not in contact with either one of the more delicate structures of the ball, the iris, the ciliary body, or the retina, and with no tendency to resume its old position.

In the same way and with the same success, I have several times displaced secondary capsular cataracts. If the lens proves to be soft, it cannot, of course, be displaced, but may readily with the same needle be broken up in its bed. Occasionally, where the lens has been large, I have failed in drawing it horizontally backwards, in the gap made by the needle, and have been obliged to couch it in the usual manner.

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But in the hard cataracts of old persons, the kind that we have perhaps most frequently to deal with, and which are usually diminished in size, the displacement by this process with a needle of the kind above described will be found an easy and satisfactory operation.

Burns and Scalds. Prof. Gross's Treatment.—During the last nine years, I have paid much attention to the treatment of burns and lds with carbonate of lead in the form of white paint; and in 1845 I called the attention of the profession to the subject in a short article inserted in Dr. Bell's *Bulletin of Medical Science.* Numerous observations made since that time have only served to confirm the views then expressed. From its great efficacy, and the readiness with which it can usually be employed, this mode of treatment deserves to come into more general use. It is not applicable merely to the milder forms of burns and scalds, but it may often be advantageously used, no matter what may be the extent or depth of the injury.

As the lead of the shops is very stiff, and consequently unfit for use, my invariable plan is to incorporate with it a small quantity of linseed oil until it is of the consistence of thick cream. Thus prepared, the affected surface is thickly and thoroughly coated with it by means of a large camel's hair pencil, a soft mop, or a small paint brush. If vesicles exist, their contents are evacuated with a fine needle, and the part is well dried; otherwise, the lead will not adhere. The dressing is completed by covering the painted surface with a layer of carded cotton, or a piece of old muslin or linen, supported by a moderately firm roller. In mild cases, one application of this kind, allowed to remain on four or five days, will usually suffice to effect a cure. In the more severe forms of the lesion, on the contrary, a considerable number may be required. Whenever the dressings become stiff or saturated with secretions, they should be removed, and others substituted in their place.

I have never witnessed any bad effects from white lead paint, applied as here stated, although I have used it very freely in quite a number of cases. In one instance, that of a negro woman, sixteen years of age, who had a most severe and extensive burn of the neck, chest, and abdomen, I kept up the application upwards of five weeks, and consumed more than a quart of the lead, without observing the slightest injury. In short, my experience induces me to believe that the treatment is perfectly safe in all cases, whatever may be the

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extent or depth of the lesion, or the age of the patient. Where a counter-poison, however, is deemed necessary, it will be readily found in the occasional exhibition of a dose of sulphate of magnesia, which, while it keeps the bowels in a soluble state, combines with the lead, forming an inert sulphate.

White lead paint probably produces its good effects in two ways: first, by forming a varnish to the affected surface; and, secondly, by directly obtunding its nervous sensibility. In many cases, it acts literally like a charm; the patient, in a few moments, becoming perfectly calm, and passing as it were from torment into Elysium.

Another article from which I have recently derived excellent effects in the treatment of burns is *collodion*. I have, however, tried it only in very slight cases, and am not, therefore, prepared to say how it would answer in the more violent forms of the affection. The remedy is worthy of further trial, though I cannot believe that it will prove to be as efficacious as white lead paint. In the cases in which I have used it, it speedily allayed the pain of the affected part, and put a stop to the inflammatory action.

Kelloid, or Cancroidal Tumours.—Those surgeons who have done much with the knife upon this kind of morbid growth are well aware of its refractory nature. It is occasionally observed to arise in the site of a badly-treated burn or blister.

Professor Eve mentions the case of a negro boy, ten years old, who had been gored by a cow in the right groin. The intestines protruded; a ventral hernia of the size of a turkey's egg followed; and, upon the cicatrix of the skin, an oblong kelloid tumour grew. While the patient was under chloroform, in cutting out this tumour (the hernia having been reduced, as was believed), the intestine proved to be adherent to the cicatrix, and was pretty freely laid open. An artificial anus was the result, but it has gradually diminished to a small orifice, over which the pad of a truss is now placed, and the patient is walking about the infirmary.

Prof. E. makes the following plausible suggestion: "May not this case throw some light on the causation of *kelloidal* or *cancroidal* tumours, from the fact of the close proximity of fæcal matter to the cicatrix? May not the want of cleanliness in the skin of the negro account for the frequency with which this affection is met with in the black, without referring its production in them exclusively to the peculiar organization of the cutaneous structure itself?"

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Ozena, Otorrhœa, and Oil of Camphor.—Professor Horner writes thus: "Having been informed of the deodorizing influence of oil of camphor when poured in small quantities, say three or four ounces, into the pit of a necessary, and having verified the fact by experiments on my own premises, it may not be uninteresting to the profession to know that I have found it equally beneficial in correcting the fetor of otorrhœa, ozena, and of old fistulæ; and I have now that confidence in its powers that I use it habitually where fetor from discharges is to be corrected."

Spina Bifida and Chronic Hydrocephalus.—From Professor D. Brainard we give the following very interesting communication:—

"In answer to your inquiries concerning the case of spina bifida, I will state the results of my experience with injections in dropsies. It will be conceded that the operation of tapping is unphilosophical. Hydrocele is the only dropsy treated rationally or successfully by surgeons. Can this treatment be generalized?

"To determine this question, a moderate-sized hydrocele was treated by injection of f℥ij of a solution of iodine and iodide of potassium—gr. iv of the former, and gr. x of the latter, to ℥i of distilled water—without discharging any of the fluid.

"This was repeated four times at intervals of from one to two weeks. At the end of six weeks, scarcely any trace of the effusion remained. The man, a labourer, had pursued his daily work and felt but slight symptoms of inflammation. This experiment was not made with a view to improving the treatment of hydrocele, but as a guide to the cure of other effusions.

"The peritoneum becomes thickened and insensible under the influence of effusions, like the tunica vaginalis.

"Having occasion to tap the abdomen for ascites, when the water had been as much evacuated as possible, I threw in gr. x iodide of potassium in solution, and closed the puncture. An acute smarting was felt at the moment, which subsided, and was not followed by inflammation. The patient returned home, and I did not hear from him afterwards.

"In another case of ascites from incurable organic disease of the liver, a medical friend injected a solution of iodine and iodide of potassium twice, at my request, and no inflammation resulted. I have not any note of the strength of the injection at hand.

"During the past winter, I injected the abdomen of a patient, affected with general effusion from disease of the heart, with gr. iv

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iodine and gr. x hyd. potass. in ℥i of water. No inflammation followed, but a remarkable absorption of fluid took place. These were all hopeless cases, in which the injection was used to determine its safety.

"*Spina Bifida.*—My experience with injections in the treatment of spina bifida commenced with the case formerly published, which was perfectly and permanently cured without any dangerous symptoms, and the child is now living near the city in good health. She has, however, only partially acquired the use of the lower members, and, being a pauper, I have not been able to have the strychnine used upon her, as should have been done.

"I have since used it in two cases complicated with hydrocephalus in such a manner as to be hopeless.

"In the first case, the tumour, of immense size, upon the lumbar region, was ruptured during labour. Suppuration, with a profuse offensive discharge, followed. Under the use of injections of iodine and iodide of potassium, the discharge was reduced to a few drops of healthy pus daily. The child lived and grew well for six weeks, when it died of convulsions, occasioned probably by closure of the fistulous opening in the back, which should have been left open as long as it discharged.

"In another case of birth at seven months, the child was affected with spina bifida and hydrocephalus. Four injections—two of iodine and hyd. potass. and two of solution of tannin—were used.

"The child died of convulsions, not connected apparently with the treatment. On examination of the tumour after death, it was found reduced to half its former size; its walls thickened, the opening into the spine quite closed, and the sack containing f℥iss of clear fluid without any sign of inflammatory action. The head could not be examined.

"Another case, similar to the last, has been under my treatment for about six months past. The spina bifida was injected with $\frac{1}{18}$th gr. iodine and $\frac{1}{8}$th gr. iodide potass. dissolved in f℥ss distilled water. This was followed by the application of the solution of gun cotton, which has reduced the tumour to a level with the skin of the back, and it is so nearly cured as to require but little other treatment.

"This child's head was nineteen inches in circumference; the upper part of the parietal and occipital was wanting, and the head bulged out into a very irregular, tense, and perfectly elastic sac. Head hot, and increasing rapidly.

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"*Oct.* 18*th.* The head was injected with same quantity of same solution used on the back. From that time to the present the injection has been repeated nineteen times, and increasing gradually in strength from the quantity named to gr. xii iodine, and gr. xxxvi hyd. potass., to f℥i distilled water (all of which is thrown in).

"The use of the weak solution at remote intervals produced little effect, and the head increased to twenty-four inches in circumference. Since the injections have been increased to from eight to twelve grains of iodine and thrice that quantity of hyd. potass., and used every four or six days, their effect has been good. The head is again reduced in circumference to twenty inches; the parietal bones touch, and are about joining; the coverings are thick and firm; and the child is improving.

"The injections were made at first without draining off any fluid, but at length the effect was so slight that it became necessary to reduce the quantity of fluid to avoid the necessity of increasing too much their strength. There is no sign of pain when the injection is made; twitching of the limbs occurs after from three to twenty-four hours, and depends much on the quantity of fluid drawn off. The head seemed hot after the first injections, but recently is pale.

"Under the use of this treatment, the child has grown fat and strong to an astonishing degree, and is in excellent health at present, and as intelligent as any child of its age (near seven months).

"The injection was made into the arachnoid membrane, and not into the ventricles.

"The conclusions to which my observations have led me may be briefly summed up as follows:—

"*First.*—Medicinal substances may be injected into dropsical cavities without danger of inflammation, provided care be taken to have them sufficiently diluted in the fluid of the cavity. It requires further experiments to determine the classes of substances which may be thus used with most safety and benefit.

"*Second.*—But slight inflammation is necessary to produce absorption of the fluid and transformation of the effusing surface. It is probable that any considerable change in the quantity of the fluid produces this result without inflammation.

"*Third.*—Injections of iodine and hyd. potass., in solution, possess the power of rapidly and safely curing spina bifida. If it were not for the other diseases and states of organs associated with it, and which are fatal, the defect under this mode of treatment might be considered a trifling one."

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We may add, from our city hospital, a case confirmatory of the innocent effects of iodine injected into serous membranes. A man, thirty-two years of age, had laboured for many months under ascites which was deemed incurable. As a palliative for the symptoms of distension, he was tapped in August, September, and October, 1849. At the second tapping, after the fluid was all drawn off, we injected *six ounces* of distilled water, holding in solution *three* grains of iodine and *fifteen* grains of iodide of potassium. A little uneasiness was felt for a few minutes, but not afterwards. For several days the patient was more comfortable than after the first tapping, and the fluid did not accumulate quite as rapidly. The disease, however, made progress, and, at the third operation, just a month from the second, *six* ounces of water, with five grains iodine and twenty grains iodide of potassium, were injected. It caused no pain nor inflammation. He died on the sixth day, apparently without influence from the injection. A post-mortem showed the left kidney not larger than a good sized nutmeg; the peritoneum smooth, and free from all traces of inflammation; and the few ounces of liquid in the peritoneal cavity stained with the iodine.

Strangulated Hernia.—Two instructive cases from Dr. J. Wood, of Cincinnati.

In the January number of the *Edinburgh Monthly Journal of Medical Science* (1850), a case of strangulated hernia is reported by James Syme, in which the stricture was in the neck of the sac, and reducible with the tumour; and, in the February number of the *London Lancet*, similar cases are noticed (p. 140).

In 1843, I operated on and reduced a strangulated hernial tumour that occupied the right inguinal canal. The tumour was returned in mass through the internal ring; but the reduction was not followed by any abatement of the symptoms of strangulation.

After waiting two hours, and finding the patient growing worse, the wound was reopened, and a stricture discovered in the neck of the sack constricting the bowel. This was cut, and followed by entire relief, and the patient recovered without anything more of interest occurring.

Three members of this patient's family had died (previous to this time) of strangulated hernia, and had all been operated on without success. From the history of these operations I feel warranted in saying that the stricture was in each case returned into the abdomen with, and still confining, the bowel.

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In another case, operated on in the present year, I found the tumour unconfined by either ring, but tightly bound by a spiral stricture in the neck of the sac. This being cut, the bowel was returned into the abdomen and the patient soon recovered.

J. WOOD, M.D.

CINCINNATI, *May 4th*, 1850.

Subcutaneous Division of recently Strangulated Inguinal Hernia where the Seat of Stricture can be detected at the External Ring.— By Professor Pancoast.

In cases of this form of hernia, where the surgeon is so well satisfied with the state of the contents within the sac as to be willing to restore them by the ordinary taxis, if that were practicable, the subcutaneous division of the upper column of the external ring may most advantageously be substituted for the common operation in which all the tunics are laid open.

I have three times performed this operation on the living subject with such immediate and complete success, that I deem the process to be well worthy the notice of the Association. It is detailed on the last page of my *Operative Surgery;* but, as that work may not be familiar to many, I will briefly state it. It was devised by M. Guérin, but, so far as I can learn, has not been practiced upon the living subject by any one save myself.

A transverse fold of the integuments, an inch and a half high, is to be raised just below the external ring; the lower wall of this fold is to be punctured with a bistoury, and, through the puncture, the end of a grooved director is to be passed, and insinuated for near half an inch immediately beneath the upper column of the ring. The fold is then to be smoothed out on the director. The end of the director is then to be strained upwards with the thumb and forefinger of the left hand till its outline can be seen or felt below the skin. A sharp-pointed curved bistoury is then to be dropped through the skin by a new puncture into the groove of the director just below the external ring. By inclining the back of the bistoury towards the operator, the point will slide along the groove and cut the stricturing band, with the common audible creaking sound. The bistoury and the director are then to be withdrawn. The stricture is now divided; no difficulty remains in the restoration of the contents of the sac into the abdominal cavity, and we have no injury inflicted save two unimportant punctures of the skin, which require no particular treatment. The patient is immediately relieved, and, on

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the following day, is able to wear his truss and resume his usual occupations.

In one of these three cases, the hernia did not again occur.

In the last of the three cases, the advantages of the operation were so apparent that I will briefly state the particulars of the case. The patient was an aged gentleman, the father of Dr. Troubat of this city. He had suffered for a long time with inguinal hernia, was much enfeebled, and, from the impairment of mind incident to old age, would detach his truss, whenever the guard set over him was relaxed, and let his hernia descend. The hernial tumour was very large, and difficult to return. Having been called on to return it several times, I had ascertained in this case that the seat of constriction was at the external ring. It finally became so completely strangulated as to be irreducible without division of the stricture, and the usual symptoms attendant on such cases set in with such severity as to place his life in immediate danger. If the ordinary operation had been performed, it would have been necessary to secure his hands to keep him from disturbing the dressings; and, in all probability, he would have sunk before the wound could have closed. In this state of things, the subcutaneous operation was had recourse to. I performed it by the above process, returned the contents of the sac in a few minutes, and the patient was immediately relieved, and lived for many months afterwards. The bowel subsequently descended from time to time, but was always readily replaced.

I am aware that this subcutaneous operation can be applicable but to a small proportion of the cases of hernia that require surgical interference—the seat of stricture being so commonly found near the neck of the sac; but in those, such as indicated by the caption of this article, to which it is applicable, it will, I believe, be found of particular value. The operation requires care on the part of the surgeon, but is simple and easy of performance.

Occlusion of the Rectum.—Professor Bush, of Lexington, Kentucky, reports the case of a lady, of about thirty years of age, on whom he performed Amussat's operation for complete occlusion of the rectum, which had lasted ten days, occasioned by stricture of the terminal part of the sigmoid flexure of the colon.* The distension of the abdomen was enormous and most painful. "The relief was immediate," says Professor Bush, in a letter, "and in a

* Transylvania Journal, Oct. 1849.

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short time after the operation was complete. I may say, a peck of fæces was discharged, with large quantities of gas. The wound was healed on the eighth day, that is, the bowel and the integument were fully united around the incision, leaving an artificial anus. There was no peritoneal inflammation nor any unpleasant symptom that could be attributed to the operation. The patient had a malignant disease which made its own progress, and caused death on the fourteenth day." In the printed report of this case, some discussion is given upon the comparative merits of the operation at the groin and this of Amussat's behind the peritoneum, and the preference given to the latter.

Dr. Robert Thompson, of Columbus, Ohio, operated in April, 1850, upon a young man, aged twenty-one. He first saw the patient in January, 1850. For five years he had been subject to severe turns of colic, accompanied with obstinate constipation and flatus. Dr. Thompson found a large mass of indurated fæces deposited in a pocket formed by the wall of the rectum, and pushed down so as almost to close the passage, scarcely admitting the passage of a catheter. Slippery elm bougies, as well as injections of water and mucilage, were of but little avail. When a large quantity of warm water was thrown up, a little broken-down fæcal matter could be discharged. This was the only method by which defecation could be effected. The discharge of gas was at all times very difficult.

In the operation, which was made at the groin, the incision through the integument was *two and a-half* inches, and through the wall of the intestine a full inch. The intestine was attached to the integument by a stitch at each angle of the wound, and another on each margin of the wound midway from the angles. "The wound healed in *five* or *six* days, leaving a free opening. Some flatus passed, but very little fæces." The patient died in *seven* days. A post-mortem examination showed that "there had been no peritoneal inflammation. Four several strictures were found above the point operated upon, and the intervening parts of the intestine were greatly distended from retention of gas." We should think the operation at the groin preferable to that of M. Amussat.

Varicocele.—For this troublesome affection a variety of treatment has been invented, and it is rather remarkable that, after so much experience has been had, so great diversity of opinion and treatment still exists among surgeons of high standing. We have seen a section of the spermatic vein removed through a free incision in the

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integument, followed by severe inflammation and strong fever. We have seen, too, a formidable inflammation and swelling, requiring active antiphlogistic treatment to control it, caused by another operation, which consists in raising a section of the spermatic vein through an incision in the integument, passing two pins under it, and securing it with the interrupted suture, *twenty-four hours* or more, until the requisite adhesions of the walls of the vein are judged to have taken place. We have also witnessed, in a foreign hospital, the interrupted suture made with three pins, at a fourth or a third of an inch from each other, passed through a fold of the integument, in which the vein was included, and a ligature wound upon the pins and tied with such firmness as to imbed it some depth into the skin; while the patient set up loud and distressing outcries, and continued them incessantly, as he was removed from the operating theatre to a distant part of an extensive surgical ward.

It would not be surprising if fatal symptoms should sometimes follow some of these operations; and, indeed, this is said to have been the case.

During the last five or six years, the following operation has been exclusively practiced by the chairman of this committee: The hair having been removed from the affected side of the scrotum, the operator separates the spermatic vein from the vas deferens, and holds it firmly in a fold of the integument, on the outer side of the scrotum, with the thumb and finger of one hand, while with the other he passes a straight needle, having a blade *one-seventh* of an inch wide, with sharp edges and a long point, its broad surfaces looking upwards and downwards, armed with waxed saddler's silk, through both layers of the integument from before backwards, on the inner side of the vein, from an inch to an inch and a third below the abdominal ring. The thread being drawn in, the fold of integument is raised from the vein till the punctures are brought in apposition on the outer side of the vein, when the needle is brought back through the same punctures; both legs of the ligature now hang anteriorly, while the vein is included in its loop. A surgeon's knot is now made and tied firmly upon the vein. The wide and sharp edged blade of the needle makes an incision through which the ligature sinks down upon the vein, leaving the integument free. The ligature, composed of two threads of the silk, is strong enough to admit of being drawn very tight: the tension is kept up for a full minute or more before the reef or square knot is made upon the surgeon's knot. When the ligature is made thus tight, we have not

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known the pain to last more than five minutes. Since we have used chloroform, the patient can scarcely be said to feel pain at all either at the time or after the operation. Since collodion came in use, we apply it to the punctures, which seems to diminish the tendency to redness and thickening of the integument in their neighbourhood. The scrotum is supported in a bag truss, and the patient kept in the horizontal position for two or three days, and directed to take light food. There is generally but little swelling resulting from this operation, never enough to require stronger local antiphlogistic treatment than a compress moistened with water. The ligature comes away ordinarily within a month.

We have operated in this way in *twenty-three cases*, and have never known an unpleasant symptom to arise from it; most patients are in the streets within ten or twelve days: one went home to his business, eighty miles, in a railroad car in less than a week from the time of the operation.

We have learned the sequel in most of the cases, and the perfect cure in these induces a strong belief that there has not been a failure in a single instance.

There are distinguished surgeons who, from fear of phlebitis, are unwilling to operate in any way upon diseased veins; but the foregoing cases inspire us with high confidence in this operation. It is the most simple hitherto practiced, and we cannot help regarding it as safe and certain.

Lithotomy.—Professor Dudley mentions that the number of his operations in lithotomy now exceeds *two hundred*, a larger number than has fallen to the lot of any other living surgeon.

Professor Pope mentions a case of considerable complication, in which he performed successfully the bilateral operation. One hip was anchylosed, and the thigh projected directly in the way of the operator; a necrosed piece of bone from the hip formed the nucleus of the stone; adhesions and partial displacement of the bladder; the stone large and requiring to be crushed. Professor P. regards his success as attributable in part to anæsthesia, and the bilateral method; the difficulties to be encountered were so unusual and so great, that he thinks he should have lost his patient without the benefit of these conditions.

The chairman of this committee still entertains a strong preference for the bilateral operation, on account of the far less risk of wounding the rectum and the pudic artery, and the practicability of

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making a much larger orifice for extracting a voluminous stone than belongs to the lateral method. We believe that this operation must supersede all other modes of lithotomy, and that, with the aid of an anæsthetic agent, it must, at least, so far supersede lithotrity as to make it the rare exception, while itself will be the rule.

In half a dozen cases, we have employed the double-bladed gorget, both blades lying upon the same plane, in making the deep section, but we do not like it so well as the straight, narrow probe pointed bistoury. We think it makes too hard a push upon the urethra and prostate.

Excision of the Cervix Uteri.—Professor Atlee requests the following corrections should be made, which, in justice, we think is due to him. He writes—

"In the *Transactions of the American Medical Association* for 1849, p. 378, the report of the Committee of Medical Literature contains this paragraph: 'Professor Atlee, in the same number of the *American Journal*, relates an interesting case of excision of the cervix uteri: the operation was well performed, but the woman died.' From this statement no other inference could be drawn than that the patient *died from the operation*, which is not the fact. The operation was performed on the 21st of December, 1846, and the patient died on the 9th of May, 1847, after a journey from Philadelphia to Pittsburgh. On the 24th of April, the uterus was examined through the speculum by Dr. George M'Clellan, Dr. S. G. Morton, and myself, and it exhibited a perfectly healthy aspect.

"As this is the only operation of the kind which, at that time, was reported to have been performed on this side of the Atlantic, I would thank you to correct the error. The report of the case may be found in the *Amer. Med. Journ.* for July, 1848, p. 86."

Excision of the Uterus.—Professor Eve, on the 16th of April, 1850, performed the daring operation of removing, through the vagina, the entire womb in a patient aged twenty-seven, for encephaloid disease. She was doing well on the 22d, when he left to attend the Medical Association, now in session. On the 5th of this month (May), he received a dispatch informing him that the patient was quite well on the 2d inst., and making preparations for going home the next day. The specimen Dr. Eve brought with him, and exhibited it to several members of the Association, among whom is the chairman of this committee. It is the veritable organ, with the

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stumps of the round ligaments and Fallopian tubes still attached to it. The sequel will be worth knowing.

Ovariotomy.—This operation has fought its way, in the face of sufficient opposition, to a pretty fair standing in legitimate surgery. In different parts of our country, as well as abroad, we hear of cases which, on the whole, give a fair degree of success.

Dr. Bayless, recently Professor of Anatomy in the Medical College of Ohio, operated with entire success upon a patient at Maysville, Ky.

Dr. Buckner, of Georgetown, Ohio, reports three cases in which he has performed the operation, two of them successful, a permanent cure being made.

Professor March, of Albany, N. Y., has recently performed the operation with most perfect success.

Professor Atlee has acquired great celebrity by his numerous cases, having performed the operation of gastrotomy for the removal of ovarian and uterine tumours no less than eleven times. Of these, *four* were fatal. Of the rest, *four* recovered, the tumours having been removed. The remaining *three* were exploratory, the tumours not being removed. All recovered from the operation.

These cases should seem to speak in favour of operation in a disease which terminates fatally almost without exception, although in some instances the progress towards death is so slow as to occupy several years. The profession is under obligations to Professor Atlee, not only for what his operations have demonstrated, but also for his statistics, published in the *Amer. Journ. Med. Sciences*, April 1845 and April 1850.

In the table of 1845 are 101 cases, and in 1850 79 have been added. "Of these 179, there were 120 recoveries and 59 deaths, or one in $3\frac{2}{3}\frac{1}{9}$, or 59 in 179, or 32.96 in 100 cases.

"The rate of mortality, according to the valuable tables of cases of operation on the larger arteries, published by G. W. Norris, M. D., in the *Amer. Journ. Med. Sciences*, is one in $2\frac{2}{3}\frac{5}{3}$, or 33.45 deaths in 100 cases; while, in all the cases of ovariotomy reported, it is one in $3\frac{2}{3}\frac{1}{9}$, or 32.96 cases in 100." In the cases, however, of operations in gastrotomy, reported since 1845, "the rate of mortality is much less than before, viz. one death in $3\frac{1}{4}$ cases, or 26.92 deaths in every 100 cases."

According to statistics by Malgaigne on amputations performed in the Parisian hospitals from 1836 to 1841, it appears that the

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whole number was 854, including all the extremities, even to the fingers and toes. Of these, 332 died, or one in $2\frac{4}{8}\frac{7}{3}$, or 38.97 deaths in every 100 cases. A mortality nearly 45 per cent. greater than that of gastrotomy. 201 of these amputations were of the thigh. Of these, 126 died, or one in $1\frac{3}{4}\frac{5}{2}$, or 62.68 deaths in every 100 cases. Exceeding the mortality of gastrotomy 133 per cent.

192 amputations were of the leg; 106 died, or one in $1\frac{4}{1}\frac{3}{0}$, or 55.21 deaths in every 100 cases. Exceeding gastrotomy 105 per cent.

91 amputations were of the arm; 41 died, or one in $2\frac{2}{4}\frac{2}{1}$, or 49 deaths in 100 cases; 82 per cent. greater than gastrotomy.

Intra-Uterine Fibrous Tumours.—Of all the achievements of modern surgery, we meet with none more striking or extraordinary than the operations performed by Professor Atlee for the removal of intra-uterine fibrous tumours; we give entire his account of them. He says:—

"I will offer a synopsis of a few cases which have never been published, but which I intend to report in detail in consequence of the novelty and success of the practice. They refer to intra-uterine fibrous tumours, removed by the knife *per vias naturales*, although the os tincæ was closed upon them. This operation originated with me, at least I am not aware that it has been performed by others. I have operated on four patients:—

"1. The first operation was in 1845, in consultation with Drs. Kerfoot and Muhlenberg, of Lancaster, Pennsylvania; the patient, Mrs. M., about forty-five years old. Tumour extended two or three inches above umbilicus, nearly to the spinous processes of the iliac bones, and was very prominent anteriorly. It resembled an immense globe, balanced on the symphysis pubis. Os tincæ well defined, rather uneven; thick, firm, and closed. The whole surface of the tumour was sealed to the interior of the uterus, even down to the edge of the os tincæ, where the tendinous-like bands could be detected. Ergot was given and these bands severed by the knife, and as the os tincæ opened, the tumour itself was cut up within the cavity of the uterus. Four operations, at proper intervals, removed the tumour. The patient convalesced, took cold, and *died* afterwards of inflammation of the lungs. The post-mortem examination showed that all the viscera, excepting the lungs, were perfectly healthy. The remains of the tumour were detected in the contracted uterus. Supposed weight of tumour ten pounds.

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"2. The second operation, 1849, the patient, Mrs. M., aged forty-nine years. Tumour reaches to umbilicus, fills the left iliac and most of the hypogastric regions, and projects into the pelvis like the head of a child passing the superior strait. Os tincæ very high and thrown forward above the symphysis pubis, closed. Tumour developed in posterior wall of uterus, expanding that wall into a cyst enclosing it. Passed a long bistoury about two inches into the cavity of the uterus, cut the wall of the uterus, and also the vagina covering the tumour, for about four inches in length, sinking the knife into the tumour so as to produce an audible grating. After this, I operated twelve or fifteen times in cutting up, and enucleating the tumour, until it was *entirely* removed. *Recovery.* Supposed weight four or five pounds.

"3. The third operation, 1849, patient, Mrs. M'B., aged thirty years. Tumour extended above umbilicus; cervix uteri slightly expanded above; os tincæ thick, somewhat hardened, ring-like feel, and closed. Ergot, and incised the os and cervix uteri in several directions, and repeated this operation until the os tincæ was well dilated, after which the tumour was entirely cut up and taken away. *Recovery.* Supposed weight of tumour six or seven pounds.

"4. The fourth operation, 1849–50, patient, Miss M. B., aged thirty-six years. Tumour distends abdomen to the size of full pregnancy. Os tincæ closed; cervix entire and dense, the passage through scarcely admitting a probe. Ergot, and repeated sections of os and cervix uteri until dilated, and afterwards cut up the tumour within the uterus and removed it. *Recovery.* Supposed weight eight or nine pounds."

Surgical Instruments—Speculum Oris—By Dr. Henry Bond, of Philadelphia.—Dr. Bond, long known for his ingenuity, says: "Twenty-five or thirty years ago, I took a piece of mirror (silvered glass), about two inches in diameter, and removed the silver from a spot in the centre, about one-sixth of an inch in diameter (or, what would be better, get a glass-cutter to bore a hole through the glass). By holding the glass close to the eye, and by placing the patient in a proper position, in reference to the sun (or other light), you can reflect the light into the ear, and at the same time look into it without the least glare. If there is any difficulty, it is that you obtain too strong a light. I have had one made, handsomely mounted with silver, with a hinged handle, so that I could conveniently carry it in my pocket."

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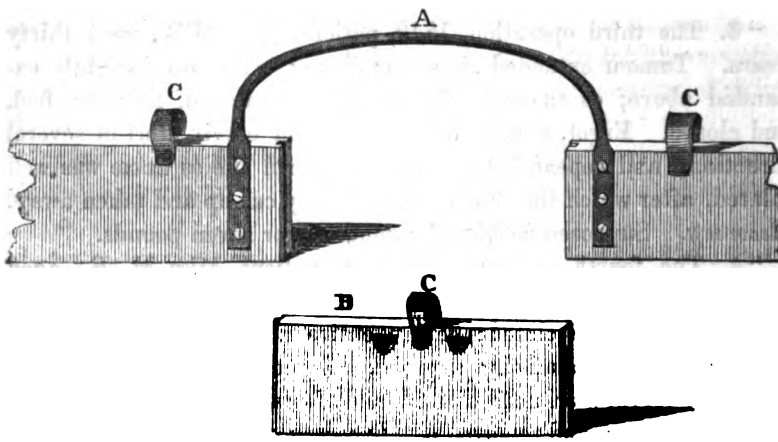
Surgeons' Needles.—Two and a half years ago, the chairman of this committee induced one of the instrument-makers of this city to make a few surgeons' needles with the point in the form of a three-sided pyramid, like a sail-maker's needle, only more attenuated. Those that were bent had one face of the pyramid on the concave side. This kind of needle is now generally used in this city; its point is firmer, much less liable to bend or break, and passes more readily through a dense tissue than that of the common needle.

Apparatus for Fractured Clavicle.—Dr. Theobald, of Baltimore, brought before the Association a valuable apparatus well calculated to prevent motion in this fracture.



Splint for facilitating the dressing of compound fractures of the lower limb where permanent extension is deemed necessary. By Dr. A. Hays, of Madison, Indiana.

A. Metallic arch screwed firmly upon the upper and lower portions of the splint to supply the place of

B. A movable section of the splint, its ends tongued, to slide into corresponding grooves in the other parts.

C, C, C. Leather loops, through which a movable wooden rod passes, to strengthen the connection of the parts of the splint, after the middle part, B, has been put in its place.

The same gentleman exhibited an apparatus for fracture of the patella.

Substitute for the Gaiter.—Dr. Josiah Crosby, after setting forth the defects of the gaiter, in permanent extension of the lower limb in fractures, causing pain, excoriation, &c., remarks, that these "troubles may be prevented in the following manner:—

"Place two wide adhesive strips, one on either side of the leg,

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from the knee to the malleolar processes, and let the strips without adhesive plaster extend a foot below them. Pass another strip around the leg above the calf, and one above the malleolar processes; then pass a roller from the toes to above the knee; then your loose strips below the limb may be fastened to the foot-board, and you may apply any amount of extension required without giving pain, excepting when the strips press hard on the malleolar processes, and this may be relieved by small pads placed under the strips, below the processes, so as to lift them off from these processes. The strips may be wide enough to envelop the entire leg above and about the calf."

We have tried this plan, and found it to work admirably. Strips were taken from the common spread plaster of the shops, extending from near the knee to four or five inches below the foot; those parts of their adhesive surface below the malleoli were covered with muslin, the two free ends were stitched together to form a loop, through which an extending band was passed to be secured to the foot-piece of the splint.

This plan of employing adhesive strips as a substitute for the gaiter differs a little in the mode of its application from that recommended by Dr. Wallace, of Philadelphia, in Sargent's *Minor Surgery*, published in 1848.

Dr. Haile's *Hæmostat*, or tampon, for certain cases of uterine hemorrhage, sent to the chairman of this committee, because a specimen of it could not be "manufactured in season," the author says, "to reach the chairman of the committee on obstetrics," was exhibited to the Association. It consists of two vulcanized Indian rubber bags, of the globular form, the one thick, the other thin, communicating with each other through a metallic tube with a valve in it, and a screw-joint. The thick tube is the forcing-pump to fill the other with air, and expand it to any required dimensions; the valve, to prevent the air escaping; and the screw-joint, to allow the thick bag to be detached at pleasure. A thumb-screw, in the part of the tube belonging to the thin globe, lets the air out of it when it is to be withdrawn from the vagina.

As this does not properly belong to the surgical department, we will not express an opinion of its merits.*

R. D. MUSSEY, *Chairman.*

* Dr. Haile's residence is Norwich, Conn.

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C.—1.

On the Use of Anæsthetics. By J. C. Warren, M. D.

Ether has been regularly used in Boston and its vicinity ever since its first introduction in 1846. It is used in private operations and public, in the youngest children and the oldest adults. It is used not only in cutting operations, but in dislocations, fractures, anchylosis, stricture of the urethra, retention of the urine, lithotrity, stricture of the œsophagus and rectum, and in all cases where any great amount of pain is to be given, and where any great muscular relaxation is required. It is used to procure repose and to soothe, when required, the last struggles of life. In the hospital, it is employed for surgical operations every week, amounting, in number, sometimes to six in one day; in the wards, almost daily, for painful incisions, examinations, &c., and in the medical department also, quite extensively, as a substitute for opium. None of those who adopted it at first have relinquished it since, but, on the contrary, habit and experience extend its application in a circle constantly increasing.

The mode of administering it has settled down into one simple process. This, in the hospital, consists in saturating with ether a large excavated sponge, which is applied to the nostrils of the patient, the face having been previously oiled or anointed, to protect it from the pungency of the fluid. In private practice, especially in females and children, we use a towel in the form of a funnel with a small sponge saturated with ether placed in its cavity. The patient is placed in the horizontal or upright posture—the former is preferred—and is directed not to take much food before the administration. The narcotic effect requires from three minutes upwards, and averages about five.

The phenomena are pretty uniform. There is first a little strangling and coughing, and some resistance is made to the application. In a minute or two, contractions of the limbs begin, which are often so violent as to require some degree of restraint. At the end of

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three or four minutes, the muscles relax, and the operation begins. Spasm rarely returns after the blood flows freely, and the operation is sometimes accelerated, to produce a flow of blood and lessen the pressure on the brain. The pulse and respiration are almost always altered. If the pulse is not quickened before the etherization, which it usually is, it is quickened on the application, till it exceeds a hundred, and then gradually falls as low as sixty in males, but not so low in females. The respiration is proportionately altered. Sometimes both pulse and respiration cease for a few times. Of this the individual who holds the pulse gives notice, when the etherization is suspended, and the face is dashed with cold water if they are not immediately resumed. But this occurrence is so rare that I really do not recollect the time when it was last practiced. The longest period of etherization in my experience has been in an old dislocation, when it was continued more than an hour. The appearances which alarmed us so much in the early practice of ether are now rarely witnessed, partly because the patient is more carefully watched, and partly because long use has enabled us to estimate the character of the phenomena.

The articles employed are sulphuric and chloric ether. Chloroform is not used in my private practice at all. In the hospital, I have used it only once within the last two years, and, I believe, most of our surgeons never use it. One of the house physicians told me he gave it in a medical case, but the patient exhibited phenomena so alarming that he suspended it, and substituted chloric ether with a satisfactory result. Within the last two years, I have made many trials of chloroform as an external application. It has rarely shown any narcotic effect upon an unbroken cuticle, although applied extensively and well rubbed in. Perhaps more prolonged frictions would have been successful in relieving local suffering. In midwifery it is perhaps resorted to; but disapproving, as I do, of its use in this practice, I have not lately made inquiry on the subject. Sulphuric ether continues to be used by some of our surgeons. For myself, after more than two years experience, I have become fully satisfied that "strong chloric ether" is more agreeable than sulphuric, and more safe than chloroform. Chloric ether has proved itself more agreeable than sulphuric, because it does not produce headache in those subjected to its inhalation, and because it does not leave behind it, in the clothes and apartments, the very disagreeable smell of dead ether, and there is no objection to its use but that of making the face sore when not protected by an oily or unctuous application.

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I think that chloric ether is more apt to produce and to leave behind it a nausea than sulphuric ether. This, however, is not an objection, but an advantage. Those who have nausea and vomiting are relieved sooner from its effects, and feel better afterwards. It is extremely rare to find a patient suffering with headache, nausea, or any other consequent inconvenience on the day after the application.

When it is considered that, in the hospital where ether was first applied for the prevention of pain in surgical operations, more than a thousand etherizations* have been made without an unfortunate result, and that all the cases in the private practice of the different surgeons of Boston, and its vicinity, have been equally favourable; and when it is considered what a vast amount of pain and apprehension has been saved, how many more surgical operations have been performed, and how much more deliberately and thoroughly they have been accomplished, we cannot hesitate to believe that the surgical application of ether has been a great benefit to the surgical art, in this vicinity at least.

Although ether has been so eminently successful and safe, I do not feel confidence in an uninterrupted immunity from serious accidents. This narcotic agent is too powerful to be altogether free from peril. But this, although quite sufficient to call for an earnest attention to the cases in which it is used, is not great enough to counterbalance its benefits.

* More than three hundred and fifty surgical applications of ether have been made annually. The ether practice has now been going on three years and a half, and besides these there have been a large number of applications in the medical department.

Boston, *March* 20, 1850.

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C.—2.

On Anæsthetic Agents. By W. L. ATLEE, M. D.

"I HAVE employed chloroform very extensively in surgical practice, and never, with two exceptions, with any unpleasant results. In these two cases, it was administered soon after a meal, and induced insensibility as rapidly and as pleasantly as in other cases; but, as this passed off, vomiting and syncope supervened, which, lasting for a few minutes, were succeeded by entire recovery. I have very little experience in the use of ether alone, but, previously to the reported deaths by chloroform, I employed the latter almost daily. Latterly, however, I have confined myself exclusively to the employment of a mixture of chloroform and ether—one part of the former to two parts of the latter, by measure—and with the most satisfactory results. My mode of administration, and its effects, are stated in the *Amer. Journ. of Med. Sciences* for Oct. 1849, and are detailed in one of the pamphlets accompanying this letter. These two fluids evidently combine chemically, as a sensible evolution of heat results from their condensation."

After specifying a great number of operations in which he has used anæsthesia, he proceeds:—

"In all these cases, I have employed anæsthesia with marked advantage; and, instead of endangering life, I consider that it has greatly contributed towards its preservation by protecting the nervous system from harm. I am convinced that operations may be undertaken with it that could not be accomplished, or that would be improper, without it. So valuable do I esteem it, in the hands of the judicious practitioner, that I am compelled to view opposition to its use as originating in prejudice or ignorance, and to consider as highly censurable a refusal to administer it under circumstances of extreme suffering. Notwithstanding the number of deaths attributed to chloroform, there is, in my opinion, no agent yet discovered capable of so great an amount of good, and, used to the same extent, that has produced so little mischief. The arguments brought against

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the use of anæsthesia will much more forcibly condemn the employment of the best-established articles of the materia medica. When we consider the extent and indiscrimination of their use, and the non-professional character of many who have employed them, the surprise should be that so few deaths have occurred, and this circumstance alone offers, to my mind, one of the strongest arguments in favour of their safety."

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C.—3.

On the Use of Chloroform. By J. D. Gross, M. D.

I have used chloroform extensively during the last two years, and am disposed to believe that, as an anæsthetic agent, it is, in every respect, preferable to sulphuric ether. The first case in which I exhibited it was that of a coloured woman who had an enormous tumour of the thigh, involving the femoral artery. The operation was performed in February, 1848, and, although necessarily tedious, was unaccompanied by the slightest pain. The patient soon fell into a tranquil sleep, and so continued during the dissection. Since that period, I have employed chloroform constantly in all my most important operations, and have never, except in one solitary instance, witnessed any disagreeable effects from it. The case to which I refer was that of Benjamin Cunningham, of Western Virginia, sixteen years of age, who had a large tumour on the left side of the neck. He was tall and slender, and of a feeble, delicate constitution. The operation was performed before the medical class of the University of Louisville, in November, 1849, and lasted less than five minutes. The tumour weighed nearly six pounds. The quantity of chloroform administered was very small, not certainly exceeding one drachm and a half; it was inhaled from a small cup-shaped sponge. The patient became affected in a few seconds, falling into a profound sleep, and thus continuing for fifty-five minutes. The pulse during the whole of this time was small and feeble, but perfectly distinct; the countenance was pale; the eyes were turned up and the pupils dilated; and the extremities were cold. There was no vomiting, and apparently no nausea. As soon as the excision of the tumour was over, and several small vessels tied, the youth was removed from the amphitheatre into my private room, where, under the influence of cold air, of volatile alkali freely applied to the nose, of sinapisms to the præcordial region, and of warmth to the feet, he gradually awoke to consciousness. It may be observed here that the utmost care was taken, during the performance of the operation,

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to prevent the entrance of air into the veins of the neck. Had this precaution been neglected, it might have been difficult to determine whether the effect in question was produced by this cause alone, or partly by it and partly by the chloroform. Cunningham rapidly recovered from the operation without an untoward symptom.

This is the only instance, out of several hundred, in which the use of chloroform at all alarmed me. For a time it was uncertain how the case would terminate; and I must confess I felt greatly relieved when I saw the young gentleman regain his consciousness.

I have administered chloroform at almost every age, from that of sixteen months up to that of seventy years; in both sexes; in slight operations as well as in the most severe; and under various circumstances of health and disease. In some of my cases, it has been found necessary to keep up a sustained action of the remedy for nearly half an hour.

I have remarked that there is much diversity in different individuals in relation to the susceptibility of the system to chloroform. In some, as in young Cunningham, the smallest quantity sufficed to produce the desired effect; while in others a large dose was necessary, as well as a longer exhibition of the remedy. Children usually require very little, much less, comparatively speaking, than grown persons, and in them the effects also seem to be less evanescent.

I have not noticed in any of my cases that the use of chloroform exerted any injurious effect upon the recovery of my patients; that it excited an unusual degree of fever or local irritation; or that it retarded, impeded, or prevented the adhesive process. I have repeatedly witnessed the occurrence of erysipelas after it, but not more frequently, I think, than would have taken place had the operation been performed without it. The excitement consequent upon the administration of the remedy has usually passed off in a short time, and in no instance have I witnessed any secondary effects that were justly ascribable to its influence.

In several of my cases, transient opisthotonos appeared to have been produced by the inhalation of this article. This phenomenon was strikingly displayed in a young gentleman of Covington, Ky., to whose hip I applied the actual cautery on account of coxalgia. While under the influence of chloroform, which he inhaled rather badly, his head was forcibly thrown backwards and the body forwards, precisely as in opisthotonos. The effect did not last longer than fifteen or twenty seconds. No stiffness of the jaws was noticed.

On two occasions, while performing the operation of lithotomy,

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the patients were affected with the most violent priapism, which, however, subsided, in each case, in less than half a minute. The ages of the patients were, respectively, four and twenty-two years. I may remark here that I never witnessed a similar result in any of my stone cases in which chloroform was not administered.

Since I have commenced the use of chloroform, I have abandoned that of sulphuric ether altogether, being persuaded, from ample experience, that it is, in every respect, preferable. It produces the desired effect in a much shorter time, causes less excitement of the brain, is more persistent in its action, and is more easily inhaled. In a word, I have every confidence in its efficacy and safety, and could hardly imagine a more desirable anæsthetic agent.

Finally, my rule always is to bring the system gradually, not rapidly, under the influence of this remedy; an object which is usually attainable in thirty or forty seconds, provided the patient gives us his thorough co-operation, and does not embarrass us by his obstinacy or timidity.

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C.—4.

On the Result of Operations for the Cure of Cancer.
By J. C. Warren, M. D.

At the meeting of the American Medical Association, in Cincinnati, in May, 1850, after the reading of the Report of the Committee on Surgery, the following cases, with two exceptions, were stated by Dr. J. C. Warren. The chairman, considering that they might aid in throwing light on the result of operations for the cure of cancer, requested that they should be furnished as an addition to the Report. For this purpose they have been prepared from the original minutes in as condensed a state as possible. Perhaps it would have been more satisfactory to have inserted all known facts and circumstances relating to them, however minute, but the author was apprehensive that this course would render them too tedious to be read. In addition to those related to the Association, he introduced two others, whose character and termination seem to be sufficiently interesting and important to entitle them to notice.

Scirrhoma of the left breast removed by an operation. No return at the end of thirty-three years.—Mrs.——, a lady in the state of widowhood, who had been the mother of a number of children, of fair complexion, thin skin, blue eyes, auburn hair, and who had always enjoyed good health, was, at the age of fifty-five, affected with a tumour of the left breast, for which she knew no cause. She had discovered it two years before, and hoping it would subside had not mentioned it till this time. Finding it to increase and become painful, she was led to consult me.

On examination, I found the mammary gland very small. In the centre of it was a tumour the size of an egg, but of a flattened and irregular form, very hard, not discoloured, somewhat movable on the pectoral muscle. I considered this a genuine scirrhus, a fair case for an operation, and advised this, which was agreed to, and the

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next day was executed, in the presence of a number of medical gentlemen and students.

The tumour with the nipple and whole breast was removed by an oval incision. Six arteries were tied. The ligatures, which were of very fine silk, were cut as close as possible, and the wound was brought together by strips of adhesive plaster, which were supported by a bandage.

After the expiration of three days, the wound being exposed was found to have united by the first intention, with the exception of a slight opening at one angle, through which there was a watery exudation. In ten days, the whole wound was healed.

The ligatures were not heard of for a month: three of them then made their appearance by little apertures in the skin which immediately closed. The other ligatures were never discovered.

The patient from that time was free from any symptom of the affection, and died December 31, 1848, aged 88, of the peripneumonia of old age.

Remarks.—The period of life, the situation, consistence, and form of the tumour, and its appearance after extirpation, concurred to establish it as a scirrhous affection, in regard to the nature of which there could be no question. This lady was constantly so situated that I had an opportunity of seeing and hearing from her from the period of the operation to that of her death, and I am confident never afterwards exhibited any symptom which could be attributed to a scirrhomatous taint. Her case was well known in Boston.

Scirrhoma of the breast removed by an operation. Patient free from disease twenty years after.—Eunice Porter, a carpet-maker, aged fifty-four, unmarried, of an athletic frame, very large stature, florid complexion and light hair, of laborious habits, living temperately and always supplied with good food, was affected at the critical period of life with a genuine scirrhus of the mamma, ending in an enlargement of the lymphatic glands in the corresponding axilla. From this she was relieved by a surgical operation, which was done July, 1822, in the presence of Dr. Lewis and other gentlemen, and had a reappearance of the diseased glands a year after, for which she took conium some time, and the swelling gradually subsided.

Afterwards she had tolerable health, but not the same ability to labour as before. In the year 1843, more than twenty years from the time of the operation, she began to feel symptoms of an enlargement of the heart, and an effusion into the thorax consequent on this affection ultimately proved fatal.

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Remarks.—No connection could be traced between the cancerous affection and the disease of the heart. The morbid specimen was preserved, but I am unable to distinguish it with certainty from other specimens of the same disease. The clear and decided testimony of a number of gentlemen, however, as well as my own certain conviction, goes to show that this was an unequivocal instance of malignant scirrhomatous disease. Of consequence, this is a case of successful issue of the operation for scirrhus of the mamma.

Scirrhoma of the mamma removed, without any return. Subsequent dropsy cured radically.—Miss L. M——, a lady well known to me, of a highly respectable family, and of previous good health, was at the age of forty affected with a scirrhous tumour of the left breast. There was no local nor general cause for this complaint, so far as could be discovered. The breast itself was small, and the tumour did not exceed the size of an egg: it was situated in the outer part of the gland, and the disease obviously existed in its substance. It had the scirrhous hardness, was painful, not tender nor discoloured; movable on the pectoral muscle.

Although convinced this was a malignant tumour of a scirrhous character, I felt unwilling to pronounce sentence upon it immediately, and therefore advised some leeches and laxative medicine. After a trial of this course for six weeks, finding the tumour to be increasing, I informed the patient of its true character, and advised its removal.

The operation was performed ten days subsequently. The tumour, with the outer half of the breast, was removed. The nipple and the inner half were left. The wound united by the first intention in a great measure, and the patient soon recovered her usual health.

In the following year, she perceived some enlargement of the abdomen. When she came to consult me in regard to this affection, she stated that the catamenia had not appeared for the last two months. There was also a diminution in the urinary secretion, yet her health was otherwise good. I was unable to satisfy myself of the nature of the disease, but determined ultimately to treat it as a dropsical affection.

She was put upon a course of calomel, with vesications: this was continued till her mouth became sore. It was then intermitted for a time, and afterwards resumed. She was kept under the influence of mercury for about two weeks more, and then, the tumour increasing in size, it was omitted, and a succession of hydragogue medicines employed, but without any effect. The enlargement of the abdomen

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continued until she became as large as a woman in the last stage of pregnancy. There was now a decided fluctuation, or undulation, indicating the existence of a fluid thicker than water. The patient suffered much from distension, and from the weight of the abdomen. Though her health continued pretty good, she had become thin and emaciated.

Under these circumstances, I advised the removal of the fluid by paracentesis, although I was not without apprehension that the morbid contents of the abdomen might have such a degree of consistence as would render it impossible to evacuate them. The patient having consented, the operation was performed on the 14th of July, 1824, about a year after the previous operation.

The abdomen was punctured midway between the umbilicus and the pubes. On withdrawing the trocar, a small quantity of glairy fluid was discharged, but the canula soon became obstructed. After clearing the instrument with a probe, the fluid resumed its course, and with it came a number of hydatids, each about the size of a pea. By regular pressure and persevering efforts, more than two gallons of this substance were removed, and the abdomen entirely evacuated.

The patient soon recovered from the operation, and regained a good state of health. She was after this subject to dyspeptic affections, but was rarely confined to the house, being able to use constant exercise in the open air, which she could conveniently do, as she lived in the country. She also wore a bandage carefully applied around the abdomen, and lived very prudently. In this way, she continued for nearly nineteen years.

On the 14th of March, 1843, when in good health, she was, while sitting in conversation with her sister, affected with hemiplegia of the left side, with partial loss of intellect. She possessed the power of recognizing persons about her, and answered when spoken to. In this state she continued, without any remarkable change, until she died, on the 31st of March.

Remarks.—I saw her twice in consultation after the attack of paralysis; but, as she did not live in Boston, I was not informed of her death till it was too late to make an examination of the body. It would have been interesting to have ascertained the condition of the ovarium, after so perfect a cure of dropsy; the condition of the liver, lungs, and uterus, after so complete an eradication of scirrhoma. Probably, however, these organs would all have been found healthy, as she displayed no symptoms of disease in either. The fatal attack seems to have been independent of her earlier complaints.

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Scirrhoma induced by accident removed by operation, without relapse after twenty-two years.—Mrs.——, a lady fifty-five years of age, consulted her physician, Dr. Jackson, late Professor of Medicine, in May, 1827. She had a tumour in the right breast about the size of an egg, which was hard, irregular, somewhat tender, and occasionally painful. During the preceding summer, being in the country, she was, while crossing a field, pursued by a cow, tripped, and, falling, her breast came in contact with a stone. The pain, at the time, was severe, but finally lessened so that she did not feel any great inconvenience from it. After a while, she discovered a small tumour, which gradually increased to the size mentioned. Dr. Jackson requested me to visit her with him, and, on examination, we found this tumour, with the characters above mentioned, situated in the substance of the mammary gland, not movable in the gland, but the gland itself movable on the pectoral muscle. We had no question of its having a scirrhous, malignant character, and advised its removal. This was accomplished by cutting out the tumour with a good portion of surrounding substance, but not the whole gland. The wound healed slowly, but when I saw her for the last time, which was in September of the same year, the appearance was, on the whole, satisfactory, though there was a slight hardness remaining under the cicatrix which excited some apprehension. She, however, never had any return of symptoms of scirrhoma, but had good health till the year 1849, when, as I am informed by Dr. Jackson, she died in the town of Pawtucket, State of Rhode Island.

Remarks.—The tumour is preserved, and exhibits the appearance of scirrhoma, with a greater redness than usually accompanies this affection. This case is valuable as affording a distinct and satisfactory example of malignant disease produced by a local cause. Such cases have not been rare in my experience. I have known irritating frictions to bring on cancerous disease of the skin in various parts of the body; pressure from a corset bone to have produced tumours in the breast, and pressure on the tongue from a tooth inside the mouth, to have produced cancer of the tongue. Other modes of pressure have affected the os uteri, and so it has happened in various parts of the body. I suppose the existence of similar facts will not be disputed, but that the development of malignant disease by such causes will be considered as requiring a predisposing state of the system. If the cure of such cases by surgical operations is not considered a sufficient reply to this objection, it is quite useless to reason on the subject.

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Let me remark that, although in the early part of my practice, I have frequently removed from the breast only the scirrhous portion with healthy parts immediately around it, matured experience led me to a different course, and for the last twenty years I have generally removed the whole breast, and every part near it which might be suspected of contamination.

Cephalomatous or fungoid tumour in the region of the parotid, removed by an operation. No return at the end of ten years.—In the year 1840, Mr. John McDonald, of Halifax, N. S., came to consult me in regard to a tumour with which he had been affected a number of years. This tumour had the size of a large orange, was of an egg-like form, situated on the right side of the neck in the region of the parotid gland. It covered part of the face in front, lifted the ear above, covered the mastoid process behind, and extended downwards on the neck below the jaw. It was of a red colour, and its surface tuberculated and ulcerated, and was firm though elastic to the touch. The extent of the attachments was so considerable, and the appearance of the tumour so unpromising, that the surgeons who had seen it declined operating, with the exception of one gentleman, who began an operation, but afterwards abandoned it. The patient was a healthy man, about thirty, ready to have an operation done, and I therefore performed it, July 14th, 1840, with the aid of Dr. Mason Warren, and other gentlemen. The tumour, as before mentioned, was found to be connected at various points with the surrounding textures, and not separated by an intervening membrane, but was with some trouble wholly removed.

On examination, it was seen to have a mottled appearance, showing a variety of colours as well as of consistence, on the whole presenting the characteristics of a fungoid tumour like that of the young lady mentioned hereafter, but having more firmness. The wound healed in about a month. The patient, whom I have heard from two or three times a year ever since the operation, has been perfectly well, and is so at this period, ten years after.

Remarks.—This case, though it resembled the cerebriform tumour of the head hereafter mentioned, was not so clearly malignant as that and another case to be mentioned here. As, however, it involved the surrounding textures and presented other symptoms of malignity above related, I feel no doubt it would have destroyed the patient by successively attacking the neighbouring organs, and at last the whole system, as the others would have done. An exact

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drawing of this tumour was made and is preserved, as well as the tumour itself.

Cephalomatous or fungoid tumour of the antrum maxillare, removed by an operation December 11, 1841. *The face perfectly well at the end of nine years after the operation.*—John Garland, a stout, healthy man, about thirty, of good habits, employed on the Lowell Railroad, presented himself at the M. G. Hospital, Nov. 30, 1841, with a tumour of the face. The left cheek was much enlarged, so as to give him a very deformed appearance. His eye was partly closed. A tumour was found in the roof of the mouth projecting from the palate. The left nostril was filled with a red, soft, bleeding tumour. The other nostril was obliterated by displacement of the septum. The disease emitted a most offensive smell. It had existed about four months, had often bled, and lately so much as to endanger the patient's life. Its character was fully visible to myself and my colleague. It was not polypus, nor exostosis, nor osteo-sarcoma, but exhibited every symptom of fungoid disease of the antrum, which would certainly prove fatal if not removed, and, if removed, would almost certainly return. However, as the patient suffered much, and was constantly in danger of death from hemorrhage, I removed it on the 11th day of December, 1841, through an oblique incision from the angle of the eye to the angle of the mouth. The left nostril, the floor of the orbit, and the left side of the palate were removed. The wound healed with a very little deformity. The vision of the eye was preserved. He had two or three returns of hemorrhage at different intervals after the operation, but these ultimately ceased. His health is now good, and he has no appearance of fungus. Five or six weeks since, happening to be at Lowell, I was addressed by a gentleman who told me he had formerly employed Garland; that he was now in perfect health, had quitted the railroad, and taken a farm on the other side of the river opposite to Lowell.

Description of the tumour.—This specimen has been preserved, and beautifully exhibits the characters of a fungoid tumour. It consists of the whole left maxillary bone, comprehending a large part of the floor of the left orbit, the left half of the bony palate, a large portion of which, however, is absorbed, and a portion of the malar bone. Five teeth are seen, viz., the left upper outside incisor, two bicuspides, and two molares. The third molar is not developed, but is found in the substance of the bone.

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The tumour itself, on a first view, presents the appearance of a small cauliflower; the surface, however, not so much subdivided. It consists of three principal lobes, or divisions, which, expanding themselves on the side of the face, concentrate in a thick membranous stalk distinctly springing from the periosteum of the posterior part of the maxillary cavity, so that a large part of the mass could be seized by the hand and moved on its pedicle, exhibiting, most distinctly, the origin from the fibrous lining of the antrum; but the inferior posterior lobe runs into, and is inseparably connected with, the whole of the soft palate of that side, making one common mass, a section of which exhibits a granulated appearance to the naked eye. All the phenomena of this affection show it to have been malignant, but particularly the manner in which it has involved the soft palate, and also the hard palate, which, I have before mentioned, is absorbed or converted into a soft fungoid substance. The details of the operation would be more fully given but that they have been published in the *American Journal of the Medical Sciences*, for April, 1842, pp. 506, *et seq.*

After writing the above, I cut a small portion of the tumour, which had been nine years in spirit, and sent it to Dr. Burnett, house physician to Massachusetts General Hospital, who is one of the best microscopists in this country, and received from him the following reply.

DEAR SIR—That small portion of a tumour, left this morning, had fortunately preserved its cellular structure much more perfectly than is usual for specimens conserved in spirit.

Its intimate composition could be pretty well made out. It appeared composed of cells of a size varying from 1.4000th to 1.1000th of an inch in diameter, having no definite or regular shape, some being caudate, others fusiform, &c. &c., nucleated and nucleolated, and often having several nuclei. They seemed to hold no distinct primal relations among themselves, but presented the characteristics of individual non-organizable cells. From all of which, I must express my opinion that the tumour was *encephaloid carcinoma*, although I am entirely ignorant of its history, locality, or size, or even gross appearance.

Yours, most respectfully,

[Signed] W. J. BURNETT.

DR. J. C. WARREN.

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Cephalomatous or fungoid tumour of the left groin in a boy five years old.—In 1843, I removed a fungoid tumour from the left groin of a boy four or five years old, of the size and form of a lemon. The boy was the son of a clergyman not belonging to this city, but from the State of Maine. The tumour, though neither red nor ulcerated, was at once pronounced, by the medical gentlemen who saw it, to be of a fungoid character. This operation I undertook with reluctance: first, because I thought it might be impossible to remove the whole of the disease; second, because it would, in all probability, be regenerated; and, third, on account of the youth of the patient. However, the parents and friends were anxious to have it removed, and I undertook it with the assistance of Dr. Mason Warren, Dr. ——, and others. The tumour was dissected from the external oblique muscles, to which it strongly adhered. From this point it was difficult to trace it, on account of its connection with the tendon of the external oblique; but I at length succeeded in separating it from the fibres of the muscle, passing through the interstice by which it issued, and, under the edge of the internal oblique and transversalis, to the peritoneum—or, more probably, to the fibrous texture which protects the peritoneum at this part. There was some difficulty in arresting the hemorrhage in this deep situation, but ultimately the bleeding vessels were secured. The wound healed very well; and the child left Boston about three weeks after the operation. Since then, I have heard repeatedly that he continues perfectly well, to the great joy of his parents, who were led to expect that the complaint might return.

Remarks.—This tumour is preserved. Its texture is perfectly cerebriform, and it has a fibrous pedicle, which took its origin inside of the abdominal cavity. A tumour of this kind, existing at so early a period of life, would have been regenerated before this time if it were likely to be.

Cephalomatous or fungoid tumour of the dura mater successfully removed by an operation. The patient well at the end of three years.—In the year 1846, a young lady, belonging to Charlestown, consulted me for a tumour on the right side of the forehead and right temple. She was a person twenty-two years of age, tall, handsome, and healthy. The tumour had shown itself the preceding year, 1845. It was smooth, uniform in its appearance, diffused into the surrounding parts, had no distinct boundary, was not discoloured somewhat elastic, not painful nor tender, and never had been.

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Nothing like a depression could be discovered in the central part. I had once before operated on a similar tumour, but quite late in the disease, and the patient had a return, of which she died. In this case, there was a question whether the tumour was of a vascular character, like one which, at about the same time, I removed from the forehead of a young man from Nova Scotia, or whether it was a fungoid affection of the dura mater. I recommended her to have an operation done without delay.

In the month of October, the year following, 1847, she presented herself a second time. The character of the tumour was now developed. The skin was ulcerated. The fungus had burst through it, about the size of an egg, of a red colour, without sensation to the touch, without pain or intellectual disturbance, bleeding readily. A probe penetrated the substance of the tumour to the depth of three inches. A drawing was made which distinctly exhibits the appearance of this remarkable fungus.

I made an incision on four sides of the tumour, so as to make four flaps of the skin, separated this skin from the fungous mass as exactly as possible, then cut away the mass as well as I could, in detached portions, it being soft and cerebriform, traced it down to its issue through the bone, which was irregular, followed it through the aperture to the dura mater, and applied actual cautery freely to the surface. The hemorrhage was great, but was suppressed by two or three ligatures and the cautery. The subsequent symptoms were of a favourable character. The wound healed very slowly, but after some months closed entirely, and has remained well ever since. She has no unpleasant feelings in her head, nor any other symptoms of disease.

Remarks.—The whole course of this case was witnessed by a great number of medical gentlemen, and her present condition is also well known. There can be no doubt of the malignity of the disease, as it involved all the surrounding textures, and exhibited the well-known character of a fungoid tumour of the dura mater.

Of the eight cases related above, four were scirrhomatous, and four cephalomatous. Three of the scirrhomatous cases occurred after the middle period of life, the fourth at that period. In all four cases, the patients enjoyed a good state of health. One of them, the first, was quite remarkable throughout her life, subsequent to the operation, for her strength of mind and full possession of her bodily faculties, till near the period of her death. Of the four cephalo-

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matous cases, none exceeded thirty at the time of the operation. All are perfectly well, and with appearances which indicate that they may never experience a return of the encephaloid disease.

All these cases were operated on in Boston, and were all so situated as to afford an opportunity of knowing their whole history. When it is considered how great must be the number of such operations, from various parts of the country, in a practice of more than fifty years, it must be admitted that, if all the results could be obtained, the number of successful terminations would probably have been sufficient to present a very different conclusion from that which is now pretty generally admitted. In order to accomplish this, the work must be begun *de novo*. Young practitioners of surgery, who are desirous of having their names enrolled among the great improvers of their profession, must keep regular and minute details of all cases of malignant disease, particularly scirrhoma of the breast, and make contracts with the patient, and the friends of the patient, to furnish the results of these operations, together with any remarkable facts which may have preceded and accompanied them. The morbid textures should also be examined by the microscope. This test has not, indeed, been applied generally to the cases here related. They occurred mostly before the application of the microscope had been discovered as a means of elucidating the malignity of morbid growths; and all of them before it was applied regularly to the discrimination of these textures.

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APPENDIX.

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L.

PROTEST OF THE DELEGATES FROM THE STATE OF ALABAMA.

At page 330 of the published proceedings of the "American Medical Association," held at Boston in May, 1849, the committee appointed at a preceding convention to report upon the subject of *Medical Education*, in section 3d, investigating "Legal Requirements exacted of Medical Practitioners in the several States of the Union," refer thus to the State of Alabama: "There was formerly a regularly appointed board of medical censors for the State of Alabama, and a law which imposed penalties of imprisonment for six months and five hundred dollars fine for practicing without license." "The board, however, has been abolished, which operates as a *repeal of all law on the subject.*" The report concludes with this remarkable declaration: "Its repeal has had the effect to overrun the State with quacks of every description, of every name and country. It has *destroyed confidence in the profession generally, broken down all medical etiquette, and prostrated the science of medicine and surgery to a mere trade.*" "*Certainly* (says the report) *there are many exceptions to the sweeping remarks made above, but generally they are true.*"

Without intending to impugn the source whence this extraordinary error has originated, or to charge intentional misrepresentation, it becomes our duty, as representatives of that State, in the first place to correct this historical feature of her legislature, and in the next to shield the members of her medical profession, as well as her citizens, from charges which, if passed over in silence, would stand upon your record a living slander against their intelligence and dignity.

From 1823 to the present period there have existed consecutively enactments embracing every desideratum by which the respectability and honour of the profession, as well as the safety of our community, could possibly be shielded. These respective laws provide for every contingency. The very first clause declares that "no person shall

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be allowed to practice physic or surgery, or any branch thereof, or in any case to prescribe for the cure of diseases for fee or reward, unless he shall have first been licensed to do so in the manner hereafter prescribed." Then follow, 1st. The impossibility of collecting debts in any shape for services without such license. 2dly. The establishment of five boards of physicians for the express purpose of granting such licenses. 3dly. The law regulating their meetings and duties. 4th. The penalties. 5th. The diploma, to be received in lieu of a license. 6th. Continued additions at subsequent legislatures to the already existing boards, by the establishing of new ones in other parts of the State. 7th, and lastly. The incorporation, in 1841, of the "Mobile Medical Society," which body was directed to appoint annually five members of the said society to examine all applicants for license to practice medicine in the county of Mobile, and who shall perform the same duties that are required by the existing laws of the medical boards of this State, and shall have the same powers.

The society is ordered to keep a "Record Book" for the entry of all licenses granted, and "no person shall be permitted to practice medicine for fee or reward, or to receive compensation for attending as a physician in the county of Mobile, unless a license shall have been granted by the said medical board to such person, and upon such evidence of qualification as, in the judgment of said board, shall entitle him to such license." If a physician neglect to record his license within six months after the passage of the act of 1841 referred to, he is debarred from recovering for any services as a physician. This charter endures until 1851, undisturbed. The protection of our citizens is further consulted by enforcing the same laws even against malpractice and ignorance in dentistry, and the better to insure this object, it is enjoined upon the board of medical examiners, as an imperative duty, to "add to their body, by election, a professional dentist," for the purpose of examining all dentists, and grant them licenses, without which they are amenable to the same laws and penalties as attach to those practicing medicine and surgery without authority. Now the only class of irregular practitioners upon whom the foregoing restrictions do not fall is that of *botanic medicine;* and, without the power of accounting for this obliquity of legislative judgment, we, in common with the country at large, are forced to yield to their prescriptive immunity. But even they are included under the same penalties and prohibitions, if they are proved to have "bled, used calomel, tartar, blister of Spanish flies, any mer-

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curial preparations, antimony, arsenic, opium, or laudanum:" a condition, however, although capable of being circumvented by fraud, yet qualifying the *quo animo* through which the concession is granted to these men.

Now, having possessed the Association of the operation of our State laws upon the interests of the medical profession, we trust it will exempt the State of Alabama from the companionship, on this subject, of those other States that have deemed it proper and expedient either never to have adopted protective laws, or, if formerly adopted, have subsequently annulled them: and we further trust that the records of this Association will not retain the section as it stands uncorrected, that our "medical boards have been abolished," or that we have "repealed all laws on the subject of licensing."

But this error, even unredeemed, falls far short of the more overruling injustice and degradation to which the concluding paragraph of the 3d section would subject the medical faculty of the State of Alabama, and we beg leave here to enter our earnest protest against the stigma which a reliance upon its authority would imply. To say that we are "overrun" with quacks, however exaggerated and unfounded, as it assuredly is, were comparatively venial, with the declaration that the imaginary abolition of conservative laws has "destroyed confidence in the profession generally, broken down all medical etiquette, and prostrated the science of medicine to a mere trade." We venture the assertion fearlessly, yet without arrogance, that there is no State within this wide confederacy among whose people there exists a more undisguised and sincere respect for the practitioner of medicine than in the State of Alabama, and from whom there is exhibited a broader and more diffused confidence towards the family physician. He is there, as he should everywhere be, the counsellor and friend, and there are no means unfulfilled by which they can demonstrate to the fullest extent the abiding sense of their relations towards him. Where next is the evidence that "all medical etiquette is broken down," or that "the science of medicine is reduced to a mere trade?" Foremost among the States, Alabama hastened to affiliate with the National Medical Reformists, and, as early as December, 1847, assembled her State Convention, from which she formed her State Medical Association; and we are bold to pronounce, beyond the fear of contradiction, that "medical etiquette" receives at the hands of our profession, through the length and breadth of our State, as unqualified and perfect observances as have been conceded to it elsewhere.

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Nor are we willing to be "damned with faint praise" through the obolus offered to our feelings by the charitable admission that "there are many exceptions to these sweeping remarks," while the reiteration that "they are generally true" is coupled with it. They *are not* generally true; and any one who has ever consulted the spirit that pervades our annual conventions, or even our local societies, and knows the proud bearing, the jealous vigilance, and prompt exposure upon the slightest innovation, would be convinced how mistaken are the sentiments which have gone forth. We further demur to the allegation that with us the "science of medicine is prostrated to a mere trade." A comparison with any State of the Union would not disparage the State of Alabama on that score, presuming, as we do, with propriety and justice, to rank ourselves among its warmest, firmest, and, we trust, most honourable supporters. Before leaving the subject, we would barely select from among the numerous means we are endeavouring to contribute towards the protection of our professional respectability, a few, for the judgment of this Association. Believing that the license system is possessed of evils, our State Association has now a petition before the legislature to supersede them entirely, by constituting diplomas or licenses acceptable ONLY from "a respectable school, college, or institution in the United States or Europe."

Again—Having had reasons to fear the proclivity of some few practitioners in our State towards the Homœopathic system, an alteration was unanimously adopted to alter our constitution, so far as relates to admission of members, in this wise: "Any medical gentleman who has been regularly licensed to practice medicine in the State of Alabama may become a candidate for membership, provided he can be vouched for as having embraced no doctrine or system of practice incompatible with the recognized standard of regular practice, or at variance with the true dignity of the science of medicine."

And, lastly, there will be found, in the published proceedings of our last annual State Convention, an article of impeachment against a member who has associated himself in practice with a physician "who is in the habit of consulting with the steam doctors or Thomsonians."

As delegates, therefore, from the Alabama State Medical Association, we are unwilling to permit these charges to stand upon record, as respectable and authoritative as the proceedings of your distinguished body, without an effort, by your consent, to adopt this protest

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and the accompanying resolution, with instruction that they go forth in your next volume as an act of justice and of fact.

Whereas, The third section of the report on "Medical Education," entitled "Legal Requirements exacted of Medical Practitioners in the several States of the Union," being discordant with the laws of the State of Alabama now existing, and in force from 1823, unrepealed, and more especially at variance with a strict sense of justice and respect to the medical faculty of that State in their inter-professional relations and public standing—

Resolved, That the foregoing protest be entered upon the minutes of the present Convention, and inserted in its published proceedings.

A. LOPEZ, M. D.,
President of the Alabama State Med. Assoc. and Delegate.

We concur.

Wm. B. Johnson, M. D.,
Correspond. Sec'ry Ala. State Med. Assoc.
F. E. Gordon, M. D.
L. H. Anderson, M. D.
} *Delegates from the Alabama State Med. Assoc.*

Cincinnati, *May* 8, 1850.

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M.

Has the Cerebellum any Special Connection with the Sexual Propensity or Function of Generation? By N. S. Davis, M. D., Member of American Medical Association; Prof. of Physiology and Pathology in Rush Medical College, Chicago, Illinois.

Perhaps there is no part of the nervous tissue concerning the functions of which a greater variety of opinions are entertained than in relation to those of the cerebellum. Thus, Gall, Spurzheim, and the whole of that school of physiologists, represent it as one of the best settled facts in *phrenological* science, that the cerebellum constitutes the nervous centre which presides over the sexual instinct, or function of generation; while, on the other hand, the vivisections of Flourens, Magendie, Bouillaud, &c., have led far the greater number of physiologists to regard this division of the encephalon as a special organ for co-ordinating muscular movements. M. Foville, again, regards it as "the organ for the *perception* of muscular *sensibility*." The tables of M. Serres, and the investigations of Muller, Carpenter, and others, show that comparative anatomy, on the whole, favours the experimental results of MM. Flourens and Bouillaud. Yet the well-known distrust with which we regard conclusions drawn exclusively from vivisectional experiments, or extensive injuries of the various parts of the nervous system, makes it desirable to avail ourselves of every other practicable mode of investigation. It is in this view that the importance of a careful study of developmental and comparative anatomy cannot be too highly estimated.

Investigations based on well-known physiological laws are always valuable, even though their results may be entirely of a negative character. The law that appropriate exercise increases the growth of any organ or tissue, and that want of such exercise retards or entirely arrests such growth, is of universal application.

And by no class of men is this law more strenuously insisted on than by the Phrenological school, as applied to different parts of the brain. Hence we find Gall, and his followers, contending that inju-

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ries of the cerebellum not unfrequently cause the testicles to become atrophied, and *vice versâ*. Acting on the idea suggested by these *alleged* facts, M. Lassaigne, a few years since, made a comparison between the weight of the cerebellum in the stallion, gelding, and mare; all the animals examined being over ten years of age. The result, as is now well known, was that the cerebellum of the gelding was found heavier, both *absolutely*, and relatively to the cerebrum, than that of the stallion or mare.

But the comparison of M. Lassaigne extended no further than to the absolute and relative weight of the whole cerebellum in mass. Hence, many phrenologists avoided the force of his conclusions by admitting that a *part only* of the cerebellum was connected with the instinct of generation or sexual appetite. And even Carpenter, in the very recent American edition of his "Principles of Human Physiology," holds the following language: "The author is far from denying, *in toto*, that any peculiar connection exists between the cerebellum and the genital system; but, if the evidence at present adduced in support of the phrenological position be held sufficient to establish it, in defiance to so many opposing considerations, we must bid adieu to all safe reasoning in physiology. The weight of testimony appears to him to be quite decided in regard to the connection of the cerebellum with the regulation of the motor function. ***How far this invalidates the moderate phrenological view, which does not regard the function of the cerebellum as exclusively devoted to the sexual instinct, is a question well deserving of attention.***" And on the same page, he adds: "Further, it would seem by no means ***improbable*** that the *lobes* are specially connected with the regulation and co-ordination of movements; whilst the *vermiform processes*, which are very large in many animals, in which the former scarcely present themselves, are the parts connected with the sexual functions." (See *Carpenter*, p. 350, 4th edit.) Wishing to test the truth or falsity of this "*moderate phrenological view*," I recently procured the brains of several bulls and oxen, all of the same age, and as nearly as possible of the same general size and variety of stock. The cerebellum of each was carefully and accurately measured in the following directions, viz.: First, *transversely*, from the lateral extreme of one lobe to that of the other. Second, *antero-posteriorly*, from the most anterior superior point of the central portion to the most posterior inferior point lying over the commencement of the spinal cord. Third, *vertically*, from the tip of the inferior vermiform process, resting on the medulla oblongata, to the most pro-

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minent point on the superior surface of the cerebellum. Fourth, from the apex of the inferior vermiform process to the apex or most prominent point of the superior vermiform process. Fifth, *transversely*, across the widest part of the superior vermiform process. As the reader will readily perceive, it was my object to measure, not only the whole cerebellum, but also its several parts; and especially its central or vermiform processes in comparison with its lobes. As the measurements uniformly tended towards one result, I shall occupy time and space to give in detail only the *average* of the measurements in each direction, and the extremes of the same. All the bulls and oxen examined were six years old; though the bulls were actually heavier than any of the oxen whose brains were examined. The following is the result in tabular form, viz.:—

	Greatest Transverse Diameter.	Greatest Antero-posterior Diameter.	Vertical Diameter.	Length of Vermiform Processes.	Breadth of Superior Vermiform Process.
Average of Bulls examined	32¼ lines	27½ lines	14¼ lines	16½ lines	13½ lines
Extremes	33 & 32 lines	28½ & 26 lines	15 & 14 lines	18 & 15 lines	13½ & 13 lines
Average of Oxen examined	32 lines	27¾ lines	16 lines	19¼ lines	14½ lines
Extremes	33 & 30 lines	27 & 28½ lines	16½ & 15 lines	20 & 18 lines	15 & 14 lines

Average weight of the cerebellum of the bulls 13⅛ drachms. Average weight of the cerebrum of the same, 115½ drachms. Proportion 1 to 8⅞.

Average weight of cerebellum of oxen 13½ drachms. Average weight of the cerebrum of same, 114 drachms. Proportion 1 to 8⅜.*

It will be seen that these examinations not only confirm those of M. Lassaigne, so far as the relative and absolute weight of the cerebellum of the castrated animal is compared with that of the same age not castrated, but the measurements equally refute the *moderate phrenological view* mentioned by Carpenter, which, as we have already said, makes the central part and vermiform processes the organ of sexual appetite, and the lateral lobes the co-ordinates of motion. On the contrary, so far as our measurements indicate any difference, it consists in the greater relative development of the central part and vermiform processes in the ox than in the bull. And, if the cerebellum of the ox is deficient in any part, it is in the size of

* It should be stated that a much larger number of brains of oxen are included in the foregoing examination than of bulls. Hence, while the average weight of all their cerebrums appears, as stated, slightly less than those of the bulls, yet the heaviest cerebrum of the ox examined was fully equal to the heaviest of the bull.

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the *lateral lobes*. But, on the most careful examination of half a dozen cerebelli of bulls and oxen, lying side by side, I could detect no constant or uniform variation either in their absolute size, or the relative development of their several parts. Now, unless we deny the validity of the physiological law, so much insisted on especially by phrenologists, that exercise increases growth, and *vice versâ*, it must be conceded that the facts here adduced in reference to the cerebelli of oxen and bulls, added to those presented by M. Lassaigne in reference to the gelding and stallion, effectually disprove the existence of any *special* connection between the cerebellum, either as a whole or in any of its parts, and the sexual appetite or function of generation. And, if we search the facts of comparative anatomy ever so rigorously, we shall find nothing to militate against the results of these investigations, but very much to confirm them. Hence, whatever of truth there may be in the phrenological location of other cerebral *organs*, we cannot credit even the *moderate views* of that school in regard to the functions of the cerebellum. It is much to be regretted that our most approved works on physiology still contain so many mere statements of opinions, the truth of which a little patient and careful investigation would directly demonstrate or disprove.

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N.

The Obstetrical Extractor. By JOHN EVANS, M. D., Professor of Obstetrics, &c., in Rush Medical College, Chicago, Ill.

THE instrument to which I call the attention of the Association has recently been described in the *North Western Medical and Surgical Journal;* but I desire to lay it before the profession of the whole country, through their assembled representatives, that it may be thoroughly examined, and, if approved, its usefulness extended.

It is designed for an extractor in parturition, as its name implies. The only successful instrument that has before been proposed for this purpose is the obstetrical forceps, the imperfections of which are familiar to all obstetricians.

That there has always been great deficiency in the forceps is recorded in the innumerable modifications to which they have been subjected.

The Extractor, it is hoped, will be free from many, and the most serious, of the objections to the forceps.

The principle upon which it operates is plain and simple, being that of placing a band around the head of the child above its largest diameter, and fixing the ends near together, by steel fingers, so that it cannot be drawn off. From this band straps pass down to the vertex and out through the os externum, to be grasped by the hand, and upon which the extractive force is exerted.

The band is applied after the manner of passing the ligature around a polypus by Gooch's double canula, as will be more readily understood after describing the instrument.

Figure 1 shows the instrument, and its different parts, and Fig. 2 its position upon the head when applied.

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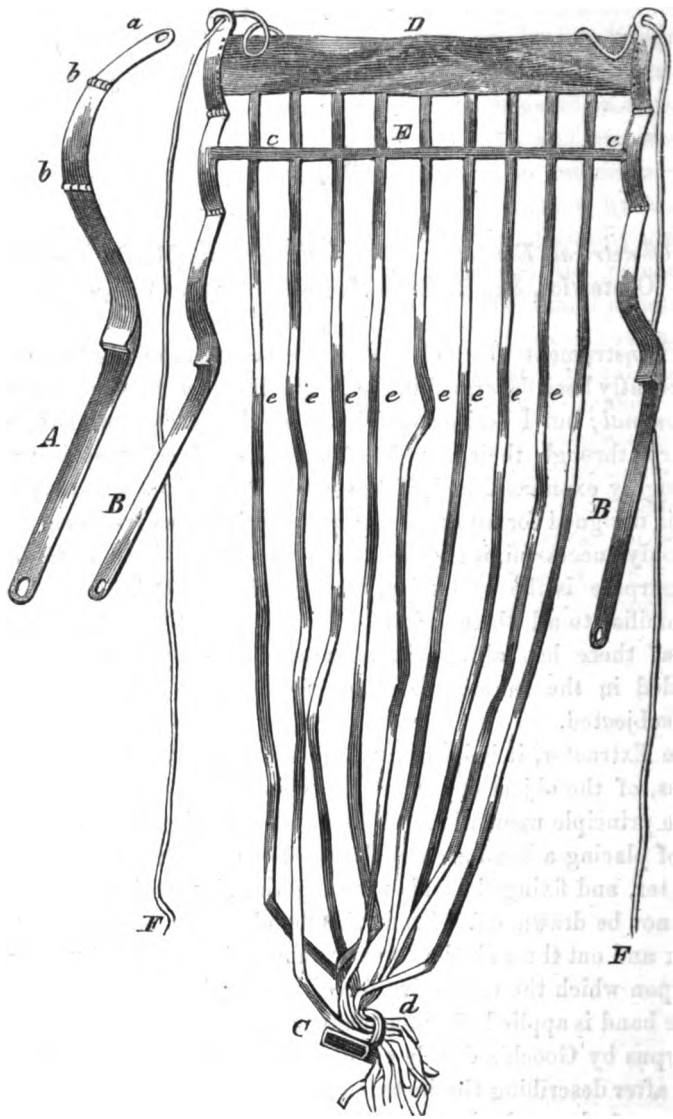
Fig. 1.



A. One finger curved as when applied to the head. *b b*. Joints. *a*. Ring.

B B. The fingers extended.

C. The sliding ring that slips on the handle to hold the fingers in apposition.

D. The band that encircles the head.

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E. Meshes of net-work. *c c.* Transverse braid forming them. *e e e e e.* Straps of silk braid passing from the band by which the extractive force is applied.

F F. Small silk braid to draw the band into the ring of each finger. *d.* Knot made by tying the straps together.

The Extractor consists of two blades or fingers of steel that are exactly matched, each 11 inches long, 5 inches of which is handle and 6 inches finger; a sliding ring; a silk band passing from one finger to the other, 9 inches long by 1 inch wide, and 9 straps of silk braid passing from it downward between the fingers, 18 inches long, and ⅛d of an inch wide.

Attached to each finger, and extending from one to the other, *c c*, one and a half inch below the margin of the band, is a braid to which the straps are sewed fast, forming with them a net-work.

The handles are ⅝ths of an inch wide, and 3-16ths thick, uniform and straight the entire length, so that a sliding ring can be passed over both when their edges are brought together, so as firmly to fix them side by side, as at *G*, Fig. 2.

The other part forms the finger which has a curvature to fit the convexity of the child's head. It is ¼th of an inch thick at the junction with the handle, for here the greatest strain comes on the instrument, but rapidly becomes thinner towards the end, until it is as much attenuated as it can be, to allow of two strong hinge joints (*b b*) in it. It diminishes also in width from ⅝ths of an inch at the handle to ⅜ths at the end, where it is terminated by a ring, the hole (*a*) through which is ½ of an inch in diameter. The edges of the fingers are rounded and the hinges made so that they present no roughness. They allow flexion enough to adapt the finger to any part of the head upon which it may rest at the time, and extension enough to make it as straight as is desirable in the introduction of the instrument. The slide holds the handles and fingers parallel and firmly together, so that their ends cannot separate.

The band (*D*) is firmly attached to the end of each finger at the ring, and by a few drilled holes below it.

The net-work (*E*) is designed to keep the band from slipping over the chin of the child, and to keep the straps in their places.

The straps (*e e e e e*) are firmly sewed to the margin of the band, and pass down so as to reach some distance below the ends of the handles. These may be tied in a knot as at *d*, Fig. 1, to form a loop which may be grasped by the hand in applying force, and which will keep the slid-.

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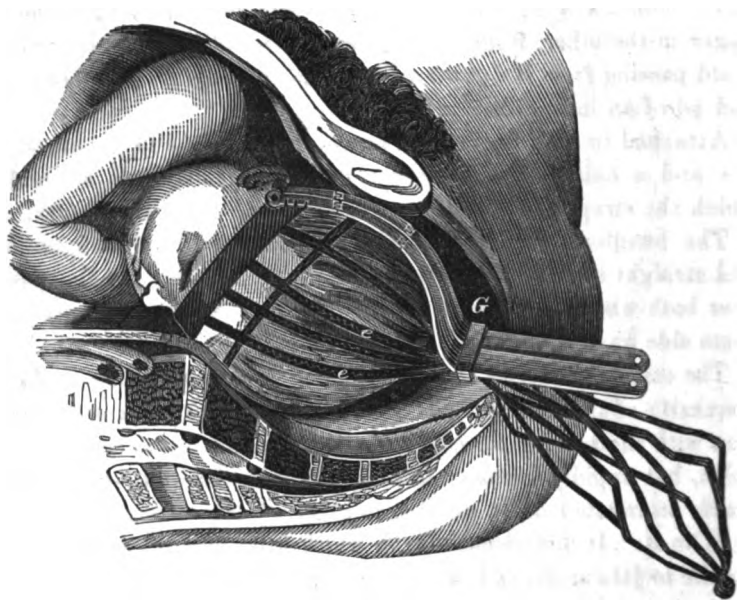
ing ring convenient while the band is being carried around the head.

The thread or fine braid (*F F*) is to draw the band into the rings at the ends of the fingers, so that it will be carried entirely up during the introduction of the instrument.

Fig. 2.



To prepare the Extractor for application, draw the band through the rings, half of it to each; slip the sliding ring on; extend the fingers; tie the small threads through the holes in the handles, and dip the end first in oil, and then immerse in water until it is blood warm.

To introduce it, pass two fingers of the left hand to the presenting part of the head of the child, or to the os uteri; take the instrument, as prepared, by the handles, holding the straps in place, parallel with the fingers of the instrument, and pass it within the uterus, with the palmar surface of the fingers of the instrument next the head. Then, as it is passed up, flexion of the fingers will take place from traction on the straps and the pressure of the uterus, so as to keep them in contact with the head, as if grasping it. With the fingers of the left hand examine and adjust the end of the instrument so as to give it a right direction, then gently press it up

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until the curve fits upon the head, as seen in cut No. 2. When the end with its bunch of silk passes over the greatest diameter of the child's head, the resistance gives way and it becomes free. In this process, there is no danger of injuring either mother or child, if done with moderate prudence, as the end of the instrument is protected by the bunch of silk band drawn into the rings.

Next, the threads that hold the band thus are loosened, and the slide taken off. One handle is now grasped and gently carried around the head from its fellow to the opposite side. As the finger of the instrument is carried around the head, the band is paid out from the ring, at the end of the finger, and at the desired place.

Care must be had that none of the straps are pulled at this stage of the process, lest they draw the band too far down. The other handle is next grasped and carried in the opposite direction until it meets its fellow. During this part of the process, two points should be attended to to facilitate the application. First, to relieve compression between the head and any part of the pelvic walls, the former may be pressed upward. And when the instrument is passing over the occiput, if passed far up, the end of it may strike against the child's neck and make an obstruction. If this occurs, slightly withdrawing the handle will obviate the difficulty.

When brought together, the slide is to be placed upon the handles again, and the straps adjusted with the fingers, so as to be about equidistant from each other, gathered together where passed through the staple upon the sliding ring, and drawn down tightly. Thus applied, the slide on the handles holds the fingers of the instrument parallel to each other, and fixes firmly the ends near together so that the band cannot give or slip off of the head.

The instrument, thus applied, as seen in Fig. 2, is ready for the application of extractive force, which may be made, as occasion requires, either directly, obliquely downward, upward, or to either side, by pulling more forcibly the opposite straps. If the head needs its position altered, it gives us the best possible power for accomplishing it.

The first application of the instrument was made in the early part of last March, since which time it has been considerably modified and improved to its present form. I will relate the cases in which it has been used:—

Case I. An Irish woman in the care of a midwife had been in labour twenty-four hours with her first child, when I was called. I

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found the head engaged in the superior strait, but not descended so far as to press upon the pericranium. It was a left occipito-anterior presentation. The uterine contractions were very strong, but, for three hours that I attended, did not in the least advance the child. I placed the patient in the usual position for applying the forceps, and proceeded to apply the Extractor after the manner already described. This was done with such entire facility that I at once became satisfied of the utility of the invention; my only fear having been in reference to difficulties in its application. The labour was speedily and happily terminated without apparently increasing the patient's suffering over that that is natural, and with entire safety to both mother and child.

Case II. Miss —— had been in labour with her first child twenty hours, in care of a root doctor, when I was called in counsel with Prof. Herrick, in the case. We found the os uteri well dilated, the contractions forcible, and the head engaged in the superior strait, with the occiput forward and to the left. No advancement had been made for several hours, when it was determined to apply the Extractor. The obstruction arose from the large size of the child. The application was made as before, and delivery as speedily and safely effected.

Case III. Mrs. B. had been in labour for ten hours; the pains were beginning to grow weaker, and the advancement of the child, which presented naturally, had ceased for two hours. It was simply a case of tedious labour from inefficient uterine contractions, and I determined to apply the Extractor, if possible, without the patient's knowledge of it. Of this intention I apprised her mother, who furnished me the means of preparing the instrument in an adjoining room. As the patient lay in the usual position for delivery on the left side, I applied the Extractor without causing so much pain as to lead her to suspect that I was using an instrument; though, thinking I made an unusual examination, she inquired if anything was wrong. The delivery was effected speedily, and with safety to both mother and child. In this case, the band slipped over the chin of the child, after which I put the net-work below the band to prevent the like accident from occurring in future.

Case IV. An Irish woman who had been in labour twelve hours, in care of Prof. N. S. Davis, was much exhausted from long con-

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tinued and violent expulsive efforts. The head was engaged in the brim of the pelvis, but had not descended into the concavity of the sacrum, and had made no advancement for several hours.

In attempting to apply the Extractor, I found some difficulty in approximating the handles closely enough to receive the slide, but found that it was occasioned by the band not having been carried far enough up, as was proved by the instrument's coming away upon the application of force. The reason it was not carried high enough at first was a deception as to the actual position of the head, occasioned by great tumefaction of the scalp. A subsequent trial succeeded perfectly, and the delivery was accomplished without farther difficulty and with entire safety to both mother and child.

Case V. Mrs. A. had been in labour with her fourth child fifteen hours, in the care of Dr. J. S. King of Chicago. I found the head entirely above the superior strait of the pelvis. Dr. K. observed that, although the soft parts seemed to be well relaxed and the contractions strong, there was no tendency during the pains to advancement of the head. The pains had been strong, without altering the position of the child, for about eight hours; but the intervals between pains were now longer, and the contractions less forcible. The os uteri was dilated to two inches in diameter; the occiput presented nothing upon the symphysis pubis. The Extractor was applied without any difficulty, and the delivery effected safely to mother and child within fifteen minutes from the time the application was commenced. The head of the child scarcely presented a trace of the instrument in any case in which it has been used. The only mark it has yet made has been slight redness and temporary depression of the skin, where the band and straps were applied.

In this case, the mother did well, but the child died in about twelve hours of morbus ceruleus.

Thus far, the Extractor has answered every expectation I had entertained. But, as the test of experience has been limited to the cases above given, we will glance at its adaptations and see what indications it will probably fulfil.

As it is capable of being extended beyond a right line, it can be passed around the bulge of the head at any point in the maternal passage; and from its small size, flexibility, and smoothness, with great facility.

These traits will also enable the operator to apply it even before the os uteri is dilated beyond the size of a dollar. The bunch of

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silk braid at the end of the instrument, made by the band being drawn into the rings, makes a perfect protection from its being pushed against the uterus or child in a way to inflict injury.

The parts applied to the head, being a kind of silken net-work, are in no danger of injuring the child.

The application of force involves but little compression of the head, which is left free to be moulded to the shape of the passage.

The straps being so soft and yielding, and their adaptation to the head being so close, there is no danger of contusion or laceration resulting from them. Even when the os uteri is but slightly dilated, the straps would be in no danger of injuring it.

The head is so completely grasped by the instrument that we can apply our force so as to make but little pressure on the mother's parts, in advance of the head.

The control the operator has over the direction of the power applied is so complete that I can scarcely conceive of a necessity for anything better in that respect. In this respect, there can be no comparison between it and the forceps. In applying extractive force by the Extractor, the operator need not be in dread of its slipping off, for, if it should, it could scarcely do any injury to mother or child.

There is no precise place on the head where the instrument must be applied, as there is no danger of its injuring any part. The small size of the instrument (its weight entire is eight ounces) renders it convenient, its simplicity understandable and safe; and its cheapness commends it especially to those who have not been able to procure instruments on account of their price.

The cases to which it is applicable are:—

1st. All those in which the forceps are now recommended, excepting when the head may be so firmly locked between opposite points of the pelvis that it cannot be moved by compressing it upward.

2d. All labours protracted in the second stage, where it is possible to deliver with safety to the child. Being applied with little pain or danger, there can be no excuse for allowing a patient to suffer the agonizing throes of labour, hour after hour, without progress, as is done in almost all such cases now, should the physician have the Extractor at hand.

3d. In labours obstructed at the superior strait of the pelvis, it will be especially applicable, for the higher up the head is at the time, the easier will be the application of the instrument. This

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will be manifest, if we consider how readily it can be passed up by the side of the head, when the fingers are extended, and that the only obstacle likely to interfere with its application is in passing the fingers from one side of the head to the other. The higher the head is up, the more loosely it floats, and, of course, the less resistance of this kind will be offered.

4th. Cases requiring speedy delivery at any time, either before labour has commenced (for the os uteri towards the full time is always dilatable enough to allow of its application), or during its progress, as is sometimes desirable in convulsions, hemorrhage, and the induction of premature labour, to prevent craniotomy.

By applying the Extractor, immediately after the separation of the placenta, in placenta prævia, as recommended by Prof. Simpson, probably the head may be kept so compressed against the os uteri as to prevent fatal hemorrhage, and possibly sometimes deliver so speedily as to save the child.

In cases of prolapsus of the funis umbilicalis, the fold may be completely returned by placing it between the ends of the fingers of the Extractor, when it will rest upon the bunch of silk band, as prepared for introduction, by which it can be carried entirely above the head and held there until the head is delivered.

The difficulty of describing an instrument that is entirely unique may prevent me from making myself understood without exhibiting it; but I think no one will fail to see its plausibility, upon an examination of the Extractor itself.

That it will fill most of the indications pointed out, I have no doubt; but extensive experience must be the test of the range of its usefulness.

Chicago, *May*, 1850.

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O.

A Brief Notice of some of the Physicians of the United States who have died within a few years. Collected and arranged by STEPHEN W. WILLIAMS, M. D., Member of the Association, Deerfield, Massachusetts.

AT the session of the American Medical Association at Baltimore, in 1848, I offered, through my friend Dr. Dunbar, of that city, a resolution for choosing a committee to procure such memorials as could be obtained of members of the medical profession who had died within the last three years, or of those who may die hereafter, and of others whose memoirs shall not have been published in the standard works of our country. This drew forth a resolution from Dr. Dunbar, which was laid over to be acted upon at the meeting of the Association at Boston.

Notwithstanding the disposition of the above resolution, it has been thought advisable by many members of the Association that some one should collect brief notices of our eminent deceased physicians. As I have already published a large volume, with plates, of some of the most distinguished medical men in America, as a kind of continuation of the work of Thacher upon the same subject, and as these volumes are now nearly disposed of, I have thought proper to collect together some of the materials which are scattered through our periodical journals, and in insulated pamphlets and addresses, and present them to the American Medical Association as a basis for a history of the lives of its distinguished members, and of other worthies in the profession. But few of the members of the Association can have access to all these journals and sources of information, and, if they could, it would be vastly more convenient to consult them in a concentrated form. All that I shall attempt to do at this time will be to give a condensed abstract of the materials which I have collected in the course of this investigation.

In the United States, there have been and still are to be found medical men whose lives and actions are ornaments to human nature,

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and whose brilliant career in the cause of science and humanity reflects honour and dignity upon our country. We suffer nothing in this respect in comparison with the learned and eminent physicians in Europe. The profession contains more learned and distinguished men than any other profession, and some memorials of their worth and usefulness should be presented to the world in more durable forms than the periodical productions of the day, and particularly of the newspaper press. What more proper organ of communication for such memoirs and notices than the Transactions of the American Medical Association, where the useful improvements and discoveries of the living should be recorded, and the memories of the worthy dead should be preserved?

It will not be in my power to notice all the distinguished physicians who have died in the United States, even within a very few years. Probably I have omitted a great many who may have been equally worthy as some of those I have enumerated. I have purposely omitted none to whose memoirs I could have access. I hope others in various parts of the country will supply memoirs and notices of those whose names I have omitted. I merely apply the entering wedge, and I hope the Association will appoint a committee from various parts of the Union, whose duty it shall be to present annually to this body the names and characters of those distinguished medical men whose death has occurred in any part of the country, whether they belong to the Association or not.

My notes must necessarily be brief, and mostly abridgments of the papers I have examined. In some instances, I can give but little more than the names of the deceased. Materials can, however, be obtained from some of them for more extended memorials.

JONATHAN A. ALLEN, M. D.

The following condensed notice of this distinguished physician is from a biographical sketch of him prepared by Dr. S. Pearl Lathrop at the request of the Middlebury Historical Society, and published in the 23d No. of the 38th Vol. of the *Boston Medical and Surgical Journal*, June 5th, 1848.

Jonathan Adams Allen was of poor but respectable parentage. He was born Nov. 17th, 1787, in Holliston, Massachusetts. His father was Amos Allen, son of Seth Allen, of Holliston, whose father immigrated to this country from Wales. His mother was the daughter of Abel Smith, of Holliston, and granddaughter of Jonathan Adams, of Medway, Mass. This Jonathan Adams was

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born about the year 1700. His mother was killed by the Indians when they burned the town. They seized this little fellow by the feet and dashed his head against a stone, then left him, as they supposed, dead upon the ground. On the next day, however, he was discovered alive. He was afterwards a member of the first Colonial Congress held at Salem, and a captain in the first army raised in Massachusetts. He died at the advanced age of over one hundred years.

Through this same Jonathan Adams Dr. Allen's genealogy may be traced to the same origin with that of the two illustrious presidents, John Adams and John Quincy Adams. Dr. Allen received the name of Jonathan Adams at the request of his great-grandfather, who promised his parents, in consideration thereof, to give him a sheep. His father removed early in life to Newfane, in Vermont, which was then a wilderness. Jonathan remained with his father, working upon a farm till he was twenty-one years of age. His father gave him a tolerably good school education for the time, though he never purchased any books for him except a primer and Webster's Spelling Book. All his other books were purchased by his own means, obtained by the trapping of minks and muskrats, and selling their furs. On the morning of his twenty-first birthday, he packed what few clothes he had in a pocket-handkerchief, left home, and went to seek his fortune in the world. He commenced teaching in West Townsend, Vermont, and in his leisure hours studied the Latin language with the clergyman of that place.

By teaching and studying several years, he prepared himself for the study of medicine, and entered the office of Dr. Paul Wheeler, of Wardsborough, Vermont. He attended medical lectures at Dartmouth College, when the celebrated Dr. Nathan Smith was at the head of that school, and he seems to have imbibed many of his traits of character from that distinguished man. He received the degree of Doctor of Medicine at that college, August 24th, 1814, having attended the prescribed course of lectures and passed satisfactory examinations. He commenced practice with his former preceptor, at Wardsborough, where he remained two years, and by solicitation he removed to Brattleborough, Vermont, in 1816. He continued there in the practice of medicine until he was appointed Lecturer on Chemistry in Middlebury College, October 9th, 1820. He removed his family to Middlebury, Vermont, in 1822, when he was appointed Professor of Materia Medica and Pharmacy in the Vermont Academy of Medicine, which at that time was under the patronage of Middle-

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bury College. He continued to practice his profession in Middlebury from that period. He lectured in the college till 1826, and attended to the duties of his professorship in the Academy of Medicine till 1829. He died at Middlebury on the 2d of February, 1848, at the age of sixty years.

Dr. Allen was a self-educated man. He was an extensive and thorough reader. At the time of his death, he possessed a large and highly scientific library. He studied these books continually in his leisure hours, and notwithstanding the vulgar, ridiculous, and interested cant, so much fostered by the idle drones in our profession, that the knowledge obtained from books is of little avail, in comparison with that of experience alone, he was one of the most judicious, if not extensive, practitioners in Vermont. He was fond of, and cultivated all the branches of natural history; but if any of the departments of this science more than others particularly engaged his attention, they were mineralogy, botany, and zoology. He left extensive mineralogical cabinets and herbariums.

As a writer, Dr. Allen stood high in the profession. He published several valuable papers in Silliman's *Journal of Science*, and the medical periodicals of the day, which are extremely useful. He prepared a *System of Pharmacology* for the press, only one number of which has been published. He was a punctual member of the Vermont State Medical Society, who chose him one of their delegates to the American Medical Association at Baltimore in 1848. Before that meeting, he was encircled in the arms of death. He was an eminent practical Christian. He joined the Congregational Church in Brattleborough in 1818.

AMOS L. AMSDEN, M. D.,

Was a son of Elisha Amsden, of Conway, Massachusetts, whose native place was Deerfield, Massachusetts, where he resided during the latter part of the Indian disturbances in that place, and was at the *Barr Fight*, so called, in Deerfield, in 1746, when he was a boy. He had two brothers, twins, I believe, who were slain in that engagement. He himself narrowly escaped death by climbing into a thickly shaded tree. The Indians passed under this tree in pursuit of him, and although his feet and part of his legs hung down beneath the branches, they did not discover him. When he arrived to the age of manhood, he removed to Conway, which was then almost uninhabited. Here Amos, the subject of this notice, was born, about the year 1779. He received a good common school education, and

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then came to Deerfield, to attend the celebrated academy there, where many young men are fitted for college, and some for one or two years advancement in the college classes. He here qualified himself for the study of medicine, agreeably to the requirements of the Massachusetts Medical Society, which exacted a good English education, a knowledge of the Latin and Greek languages, and of mathematics and natural philosophy, before commencing the study of our profession. He then entered the office of my father, the late Dr. William S. Williams, about the year 1800, and continued his studies there till the year 1803. He then commenced practice in Sullivan, Madison county, New York, when that section of the country was almost entirely new, and where the practice of the profession was then arduous in the extreme. He soon obtained the confidence of his employers, and rose to distinction and eminence. Soon after the organization of county medical societies in the State of New York, about the year 1806, I believe, he was elected President, or Vice-President, of the Madison County Medical Society.

He remained in Sullivan several years, when he removed to the interior of the State of Michigan, where he became acquainted with the chiefs of several tribes of Indians. Being interested in their manners and customs, he made himself acquainted with their languages. He now became acquainted with General Cass, who, about this time, was governor of the then territory of Michigan. Through him, I understand, he was appointed interpreter to the Wyandotte, the Potawattomie, and the Ottawa tribes of Indians, and was of much service to the United States government in their transactions with them. He often met them at Michilimackinack, at Chicago, which was then a wilderness, and at various other places. The chiefs esteemed him, and admitted him even into their secret lodges. He once related to me the manner in which they initiated, or made their medicine men, or doctors, which was a secret which he accidentally discovered. I am not at liberty to communicate it if I could, nor do I recollect all the particulars. It was a ceremony to which, I believe, no other white man ever was admitted, and it was singularly curious and interesting. From this time he became so much interested in Indian customs and manners that he almost entirely abandoned the practice of medicine for several years. He spent much of the latter part of his life in voyaging on Lakes Michigan and Superior, sometimes in fishing and hunting for amusement, and sometimes in exploring the mineral regions on the borders of those lakes, and particularly on Lake Superior. No man was better ac-

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quainted with the bays and rivers of Lake Michigan. As he had acquired an easy fortune, he preferred spending the residue of his life in this manner. He died at St. Joseph, Michigan, in the month of November, 1848. A very interesting and extended biography might be written of him; I can now only thus briefly notice him.

AMOS BANCROFT, M.D.,

Was a physician of high respectability, and enjoyed in a large degree the confidence of an extensive neighbourhood. He was also engaged in the cultivation of the earth, and took great satisfaction in the success of his agricultural pursuits. Nevertheless, he was devoted to his profession, and continued in active practice in Groton, Massachusetts, and its vicinity, until his health failed, a short period before his death. He was overthrown in State Street, Boston, in July, 1848, and died shortly after at the house of a friend. (*Jarvis's Anniversary Discourse before the Mass. Med. Society.*) He was a fellow of the Massachusetts Medical Society from 1803 to 1835.

AMARIAH BRIGHAM, M.D.,

Was born in the town of New Marlborough, Massachusetts, on the 26th day of December, 1798, where his father was also born. His father moved to Chatham, in 1805, and died there in 1809, when Amariah went to live with an uncle, Dr. Origin Brigham, of Schoharie, N. Y., where he intended to reside, and study the profession of medicine, for which he had a fondness; but his uncle now dying obliged him to seek other resources. Not relishing the pursuits of a farm, and having a great desire for books, he started off alone, at the age of fourteen, for Albany, to procure a livelihood. He soon found a place there in a book and stationery establishment, where he resided with the proprietor of the family, and was very happy. He remained three years in this establishment, giving perfect satisfaction to his employer, and, having retained his fondness for the profession, he returned to New Marlborough, and commenced the study of medicine with Dr. Edmund C. Pert, a distinguished physician, in whose office he remained most of the time for four years, deducting the winter term, when he taught school, and one year spent in New York attending lectures. His study was close and thorough, often amounting to twelve hours a day, besides miscellaneous reading. In prosecuting his medical studies, he found that many things which he wanted were locked up in the French language.

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He procured dictionaries and other helps, and without any teacher he mastered the French.

In the year 1820, when his pupilage closed, he spent one year with Dr. Plumb, of Canaan, Connecticut, engaged most of the time in practice with him. In 1821, he commenced practice by himself in the town of Enfield, Massachusetts. Here he remained two years, but finding, as he thought, a more inviting field in the town of Greenfield, the new town of the county of Franklin, Massachusetts, he removed there and practiced two years, when he went to Europe. After a year's residence in France, Italy, England, and Scotland, he returned to Greenfield; but removed in April, 1831, to Hartford, Connecticut. Here he had a large and successful practice, much of it in the line of surgery, until 1837, when he removed to New York, and lectured one winter in the Crosby Medical College. His health failing, he returned to Hartford in 1838. In January, 1840, he was appointed, in connection with Dr. George Sumner, to take charge of the Retreat for the Insane, at Hartford, and in July, 1840, was appointed its superintendent. In the summer of 1842, he was appointed superintendent of the New York State Asylum at Utica, where he continued, giving great satisfaction, to the day of his death. While here, he established the *Journal of Insanity*, of which he was the editor; but he received many communications for it from other respectable sources. At the time it was commenced, it was the only journal of the kind published in this or any other country, and elicited the highest encomiums from the medical and legal professions both in Europe and America.

He died of dysentery, at the Asylum, at Utica, on the 8th of September, 1849. Of his writings, in addition to his annual reports, in which the whole subject of insanity is discussed, and the editorial articles in the *Journal of Insanity*, he has, at different times, published various other works. In 1832, he published a small volume on the epidemic, or Asiatic, cholera; also a work on "Mental Cultivation and Excitement." In 1836, a volume on the influence of religion on the health and physical welfare of mankind. In 1840, a volume on the brain, embodying its anatomy, physiology, and pathology. His last publication was a small volume entitled the "Asylum Souvenir."

My friend, Dr. C. B. Coventry, of Utica, who published the memoir of him printed in the *Asylum Journal*, from which the above abstract is taken, says of him, in conclusion, "He possessed a strong feeling of self-reliance, a quickness of perception, which

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enabled him to seize readily the views of others, and use them for his own purpose; but, above all, and before all, an iron will and determination which brooked no opposition; consequently, in whatever situation he was placed, he must be absolute, or he must be unhappy. It is seldom that we find this strong determination of purpose connected with a feeble constitution; but, whenever it exists, the individual may be marked for a premature grave: the strongest constitution can scarcely long maintain itself under the thousand irritations to which such a will is subjected."

PROFESSOR BARBOUR, M.D.,

Was a native of Virginia, and a son of Judge Barbour, of the Supreme Court of the United States, one of the distinguished worthies whose memory Virginia cherishes. He received his professional education partly at the University of Virginia, but graduated at the University of Pennsylvania. Many years ago, he removed to the southwest, and occupied for some time, with marked credit, the chair of Chemistry in Lagrange College, Tennessee. The chair of Obstetrics, in the University of Missouri, having been offered him, he moved to St. Louis, some years ago, and continued to reside there, honoured as an able teacher, beloved as a man, extensively confided in as an honourable and philanthropic physician; and, when prematurely cut off, having still brighter prospects before him. He had the greatest confidence in a compound of morphia, Hoffmann's anodyne liquor, and other excitants, similar to many formulæ in use in cholera and choleric affections; but his own case is another melancholy example of the utter inapplicability of any remedy, or combination of remedies, for special morbid conditions, which may notwithstanding have received a common application. (*Med. Examiner.*) He died of cholera, at St. Louis, in the summer of 1849.

SHUBAEL FITCH BARTLETT, M.D.,

Fourth son of Rev. Shubael Bartlett, of East Windsor, Connecticut, died on board the United States schooner Invincible, near Benicia, on Sacramento River, Upper California. He was born at East Windsor, August 23, 1811; graduated at Yale College in 1833; passed some time as a teacher of deaf mutes in the New York Institution; became licensed to practice medicine, and subsequently settled at Lynn, Connecticut, as a physician, in 1841. In September, 1842, he married, at the latter place, Miss Fanny Rogers Griswold, only daughter of the late Charles Griswold, Esq., and grand-daughter

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of the late Gov. Roger Griswold, of Lynn. On the 2d of April, 1849, he sailed to California, as physician and treasurer of a company, which he was obliged to leave, on his arrival at California, on account of ill health, when he became a surgeon in the United States Army; in which capacity he died, on the 12th of October, 1849, of dysentery, at the age of thirty-nine years. (*N. E. Hist. and Gen. Register.*)

STEPHEN BATCHELLER, M. D.

Died, on the 7th of November, 1848, Dr. Stephen Batcheller, aged seventy. He was born in the town of Royalston, on the 3d of January, 1778. His preparatory education was obtained at the Academies of Chesterfield, New Hampshire, and New Salem, Massachusetts. His father being a physician, residing at Royalston, his medical education was commenced with him. The latter part of his pupilage was spent with the late Dr. Henry Wells, of Montague, one of the most distinguished physicians of New England. He commenced the practice of his profession at Truro, Cape Cod, in the autumn of 1800, being then twenty-two years of age. In 1803, he removed to Royalston, and there continued to practice his profession successfully till his death. On the 1st of June, 1814, he was elected a Fellow of the Massachusetts Medical Society. He held the office of Counsellor, in the Society, for a number of years, and, for two years, that of its Vice-President. He was one of the founders of the District Society for the county of Worcester, and was, for some time, its President. He was chosen a delegate to the American Medical Association, which met at Baltimore, in May, 1848, by the Massachusetts Medical Society. He attended that most interesting meeting, and became a member of the Association.

He was ambitious to keep pace with the great improvements in the profession, and procured and read most of the standard works in it. He educated forty pupils in the profession. He was a great worker, and literally died in the harness. His ride was often seventy miles a-day in the discharge of his professional duties. He practiced in two of the adjacent towns on the very day of his death. He held a high and honourable rank in his profession, and was highly esteemed by all his professional brethren. He had probably a more extensive ride than any other physician in the county of Worcester, and, perhaps, in the State. He was truly a moral and religious man. (For further particulars, see my Memoirs of him in the *Boston Med. and Surg. Journ.*, Jan. 3, 1849.)

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JOHN F. BROOKE, M. D.,

Died, at Macao, on the 17th of October, 1849. He was fleet surgeon of the United States squadron, in the East Indies. He had been attached to the service twenty-five years.

JOHN BUTTERFIELD, M. D.,

Died, on the 7th of September, 1849, at Salisbury, New Hampshire, of consumption. At the time of his death, he was Professor of the Theory and Practice of Medicine in Starling Medical College, Ohio, and Editor of the *Ohio Medical and Surgical Journal.* As a lecturer and teacher, Dr. Butterfield had but few equals. His talents were of a superior order. As an editor, he was peculiarly adapted to his calling, and, we fear, it will be difficult to find for his successor one possessed of the same rare combination of talents which characterized the deceased. (*N. Y. Journ. Med.*) Dr. Butterfield was a member of the American Medical Association.

W. M. CARPENTER, M. D.,

Professor of Therapeutics and Materia Medica in the Medical Department of the University of Louisiana, died, at New Orleans, on the 4th of October, 1848, aged thirty-eight years. The early death of Dr. Carpenter will long be regretted. In his death, the science of medicine has lost one of its warmest exponents and firmest advocates. He was one of the first editors of the *New Orleans Medical and Surgical Journal*, and his contributions to its pages gave evidence of the working of a strong and vigorous mind, governed and guided by the strict rules of the inductive method. As evidence of this, may be cited (not as the only illustration which his writings furnish, but as one from among the many) his "Remarks on the Periodical Maturation and Discharge of Ova in Man, and other Mammalia, and the Practical Bearings of this Theory." This essay will ever remain one of the first contributions, in point of value, which the literature of our country furnishes. (*N. Y. Med. Journ.*, Jan. 1849.) Dr. Carpenter was a member of the American Medical Association.

JOHN CULLEN, M. D.,

Late Professor in the Medical Institution of the city of Richmond, Virginia, died, very recently, at that place, in January, 1850. He was a highly distinguished physician and talented writer, concerning whom it were to be wished that we had more extended materials for a biography.

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JOHN D. FISHER, M.D.,

Of Boston, died on the 2d of March, 1850, aged fifty-three. Dr. Walter Channing has given an obituary notice of him in the *Boston Medical and Surgical Journal* for March 13, 1850. He says, "Dr. Fisher was emphatically a self-made man. That which created him, his own good spirit, remained true to its creation unto the end. He laid deeply the foundations of future eminence and usefulness, in patient laborious study of books, and careful record of what he saw, and of the thoughts or views to which direct observation gave birth. He went abroad and studied, under the distinguished men of Europe, that which had most occupied him at home. He was much interested in the study of small-pox, and gave to his profession a valuable and useful volume on that disease. Auscultation occupied much of his attention abroad, and he continued to be deeply interested in its study and application to the latest day of his professional life." He made use of etherization in child-birth, and so satisfied was he of its entire safety and usefulness that he continued to employ it till his death. He most generally used chloroform.

He was an active member of the Boston Society for Medical Improvement, and attended the meetings, and participated largely in its transactions, whenever his health would permit. His papers read before it were large contributions to medical literature. Dr. Fisher found time, amidst the interests of literary and practical life, to devote himself to the collateral branches of the profession. He was an early advocate for the establishment of the Perkins Institution for the Blind. He was its physician and Vice-President. During Dr. Harris's absence in Europe, the entire care of the institution devolved upon Dr. Fisher; and all this was done without any pecuniary compensation. It was a free will offering of duty, and had its reward in itself. Dr. Fisher had recently been elected one of the acting physicians of the Massachusetts General Hospital. His heart, as well as his mind, was in his profession; and his patients and his brethren felt how useful and how grateful were their united agencies. He was a delegate, in 1849, from the Massachusetts Medical Society to the American Medical Association, which assembled at Boston; but, I believe, he was absent at the time of the meeting. He died of bronchitis. Dr. Smith, the editor of the *Boston Medical and Surgical Journal*, says, "It was gratifying to witness the marked manifestation of respect for the good name of the late Dr. John D. Fisher, on the day his remains were entombed.

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The profession of the city were well represented, though not especially invited as a body. A spontaneous feeling of personal respect for an amiable, industrious, conscientious physician, prompted a large number to attend on the solemn occasion. Had proper notice been given, it is presumed, the whole professional strength of Boston would have been given."

SAMUEL FORRY, M.D.,

Died, at New York, November 9, 1844, in the thirty-fourth year of his age. He was a native of Gettysburgh, Pennsylvania. He studied the profession of medicine with Dr. Fahnestock, and received the degree of Doctor of Medicine in the University of Pennsylvania. He was a surgeon in the United States army for many years; and, during the campaigns in Florida, in the late war in that territory, he made many interesting observations upon its climate. He afterwards compiled, from these observations, and others made by the surgeons at the different military posts, under the direction of Dr. Lawson, Surgeon-General of the Army, "The Meteorological Register and Statistical Report on the Sickness and Mortality in the Army," both of which were published as the official reports of the medical department of the army. The numerous facts contained in these works, with others which he collected, were afterwards used in the preparation of his work on the "Climate of the United States, and its Endemic Influence." This work obtained for him a high and well-deserved reputation both in his native country and among scientific men in Europe. Numerous papers have been published by him in the *American Journal of Medical Sciences*, at Philadelphia, and the *Boston Medical and Surgical Journal;* while many other periodicals, not strictly devoted to scientific subjects, were enriched by contributions from his pen. The *New York Journal of Medicine* bears its testimony to his persevering industry, his patient research, and his capacious, discriminating mind. Every number is indebted to him for a considerable portion of its original matter, either in the form of an essay, or in extensive analyses of books. The Boylston prize, of the Harvard University, for the year 1844, for the best essay on the protective power of vaccinia, was awarded to him, and appeared in the *New York Journal* for September, 1844. During that year, he was unremittingly engaged in completing a work, still in manuscript, of vast erudition and research, entitled, "The Developments of Man's Faculties, and the Laws of his Mortality and Reproduction, viewed in the relation to Hygeology," more

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fully illustrating his views of climate. It was his incessant and laborious application to the last-mentioned work that induced the fatal malady which so prematurely closed his labours. Not even sickness could induce him to relinquish his studies; and his last act of literary labour, when scarcely able to sustain the necessary position for such a duty, was to correct the proof-sheet of his article upon "The Nature and History of Vital Statistics," in the number of the *New York Journal of Medicine*, for November, 1844, that he had privately obtained from the printer, contrary to the advice of his medical attendants. To the most unwearied industry in scientific pursuits was added a remarkable power of discrimination; and his ability to arrange, digest, and condense a vast amount of isolated facts to illustrate an important point, is a prominent characteristic of his work on climate. Among his traits of character, there is none more worthy of special remark than his unaffected modesty. He appeared almost unconscious of the abilities he possessed. (J. S., in the *N. Y. Journ. Med.*) He was editor of the *New York Journal of Medicine* nearly two years. In so high estimation was he held by the physicians in the city of New York, that they raised a subscription for a monument to his memory, to be erected in Greenwood Cemetery, where he is buried.

MARTIN GAY, M.D.,

Of Boston, died on the 12th of January, 1850, aged forty-six. The *New England Genealogical Register* says of him: "The loss of Dr. Gay will be severely felt by a wide circle of real friends. He was a gentleman of the finest feelings; modest and unassuming in his manners. He was descended from the well-known Dr. Ebenezer Gay, of Hingham. His father was Hon. Ebenezer Gay." He was late Counsellor and Librarian in the Massachusetts Medical Society. The *Boston Medical and Surgical Journal* of January 16th, 1850, says of him: "He was an eminent and excellent man, whose loss is greatly deplored by all who had the happiness of his acquaintance. Dr. Gay was well known as a lecturer on chemistry. He was one of the medical gentlemen to whom were referred the supposed mangled remains of the late Dr. Parkman, with a view to their identification." Mr. Clifford, the Attorney-General of the Supreme Court of Massachusetts, in his plea for the government in the case of the murder of Dr. Parkman by Dr. Webster, gives a most feeling and just tribute to the character of Dr. Gay.

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JOSEPH GALLUP, M.D.

Doctor Gallup was one of the most distinguished physicians in Vermont. He was one of the founders of the Woodstock Medical School, which has sustained a very fair reputation ever since its establishment. He was one of the most extensive medical writers in our country, and his published productions are of great value. His *Institutes of Medicine*, in two volumes, have been much sought after and admired; and his *History of Epidemics in Vermont* alone is sufficient to give him lasting fame. He died at Woodstock, Vermont, late in the autumn of 1849, in the eighty-first year of his age.

ISAAC S. HAINES, M.D.,

Was born in Evesham township, Burlington county, New Jersey, in the year 1808. He received a pretty good preliminary education, and early manifested a desire for the study of medicine, and, although discouraged by his friends, he was placed under the care of the late Dr. Joseph Parrish, of Philadelphia, where he commenced his studies in the year 1829. He entered the class of the University of Pennsylvania, and graduated in 1833. He now became engaged with a few others in examining students who were preparing for graduation. This employment, together with the practice in the Philadelphia Dispensary, occupied much of his time for several years, when he removed to Burlington. He was particularly fond of the study of chemistry, and engaged in the preparation of a catechism adapted to the course of chemical lectures in the university by Professor Hare. Dr. Haines practiced medicine in Burlington up to the time of his last illness. As a physician, he was prudent and cautious, and attached himself to his patients by his fidelity to them in their afflictions, as well as by his skill in the management of their diseases. He occasionally gave popular lectures on chemistry and botany, which were well received by those who were able to appreciate their merit. As a member of the board of censors for the county of Burlington, he was distinguished by his fairness and promptness in examining upon the subjects of chemistry and materia medica, which branches he always preferred.

Amability was his chief characteristic. Never querulous, but always conciliatory, he had no enemies, and he was no man's enemy. We speak of Dr. Haines from an intimate acquaintance with him of many years duration. In his intercourse with his brother practitioners, he was as ready to give as to receive aid, and

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in consultation was scrupulously careful to avoid the appearance of dictation or distrust toward his associate in attendance. His practice was a laborious one. To the poor he was always attentive, visiting them by day and by night, satisfied with the reward which a good man finds in the ability to minister to the necessities of the needy. But Dr. Haines is no more. He died in the fortieth year of his age, on the 18th of 6th month (June), 1848, of a low typhoid fever of seven weeks continuance. During his illness, he was cheerful and patient, and we cannot withhold the example of his quiet spirit rising before us as worthy of all imitation.—*Joseph Parrish*, in the Feb. No. of the *Med. and Surg. Reporter* of New Jersey, 1848.

ENOCH HALE, M. D., of Boston.

This distinguished and learned physician died at Boston, on Sunday, the 12th of November, 1848. He was son of the Rev. Mr. Hale, of Northampton, Massachusetts, an eminent divine, who educated a great many pupils for the Christian ministry, and was himself considered to be an exact scholar. Dr. Hale received the degree of Doctor of Medicine from the Medical College of Cambridge University, on the 20th of August, 1813. He commenced the practice of his profession in Gardiner, Maine, where he continued several years. He then returned to Boston, where he spent the remainder of his days. Soon after his establishment in Boston, he was appointed a physician to the Boston Dispensary. He was admitted a Fellow of the Massachusetts Medical Society in the year 1817. This society has ever been considered one of the best State medical societies in the Union, and he devoted the energies of his mind to support it. For many years, to the time of his death, he was a counsellor in this society. Many of his written productions are published in its *Communications*. In 1839, he delivered the annual address before the society, entitled "Observations on the Typhoid Fever of New England," which was afterwards published in the form of a volume. Some of his other published productions are an inaugural dissertation, entitled "Experiments on the Production of Animal Heat by Respiration," which called forth an elaborate reply from Sir Benjamin C. Brodie; the Boylston prize dissertation "On the Communication between the Stomach and Urinary Organs;" and another prize dissertation in 1821, "On the Propriety of Administering Medicine by Injection into the Veins." Both of which received the prize. Dr. Hale thought he was the

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first that ever made the attempt to inject medicinal substances into the veins of the living subject, but Fabricius and Smith preceded him. He published, also, a paper on "Respiration;" one on "Arm Presentations;" one on "Hemorrhage from Varicose Veins;" one on "Theories in Medicine;" one on "Quarantine Regulations of Boston;" one on the "History of the Massachusetts Medical Society;" one on "Extensive Malignant Diseases;" and many others. He was one of the most extensive and learned medical writers in New England. At the time of his decease, he was one of the attending physicians of the Massachusetts General Hospital. He was a member of the American Medical Association. Dr. Channing has written an able memoir of him, which may be found in the *Boston Medical and Surgical Journal* for November 22d, 1848.

JOHN POLLARD HARRISON, M.D.,

Died September 2d, 1849, at Cincinnati, of cholera, in the fifty-fourth year of his age. He was born at Louisville, June 5th, 1796. He commenced his medical studies at Louisville, but completed them at Philadelphia under Dr. Chapman. He graduated as Doctor of Medicine in the University of Pennsylvania in 1819, and immediately commenced practice at Louisville, where he continued in successful practice sixteen years. In 1835, he removed to Philadelphia. While at Louisville, he held the office of Physician to the Louisville Marine Hospital, and occasionally gave clinical lectures.

Soon after his removal to Philadelphia, he accepted the professorship of materia medica in the Medical Department of Cincinnati College, and immediately removed to Cincinnati. He continued in this appointment till 1839, when he retired to the private duties of his profession. In 1844, he was elected to the chair of materia medica in the medical college; and, in 1847, he was transferred to the chair of theory and practice in the same college. He held several honourable positions in various medical associations. He was President of the Medical Convention of Ohio, which met at Lancaster in 1843. In 1848, he was appointed Chairman of the American Medical Association; and was elected Vice-President of the Society at its late meeting in Boston. He was a copious writer, and very many of his productions were published in the *Western Journal of Medicine*, of which he was an associate editor. In 1847, he became associate editor of the *Western Lancet*, in which many of his communications are published. He has published several popular introductory lectures on medicine, in the form of a volume.

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His published lectures are said to be more numerous than those of any lecturer in the Union. His grand work was upon materia medica, published in two volumes, in 1845, and it is most highly extolled. His lectures were always popular, spirited, and eloquent. His reading was very extensive and profound. He was considered a most excellent and judicious physician, giving the lie to the assertion that the greatest readers and most learned physicians are the worst practitioners. He was a member of the Presbyterian Church for thirty years, and was considered to be an eminent Christian. I am indebted for most of the above facts to the *Western Lancet*. I became acquainted with him at the meeting of the American Medical Association at Boston, in 1849, where I heard him read his admirable Report on the Medical Literature of the United States, which is published in the second volume of the *Transactions*.

THOMAS T. HEWSON, M. D.

Selections from an obituary notice by Franklin Bache, M. D.

Thomas Tickell Hewson was born in London, on the 9th day of April, 1773. He was the second son of William Hewson, the celebrated anatomist and physiologist, who died of fever, occasioned by a wound received in dissection, on the 1st of May, 1774, in the thirty-fifth year of his age, when the subject of this notice was but one year old. His mother was Mary Stevenson, a widow lady, in whose house Dr. Franklin resided while in London as agent of the Colony of Pennsylvania. She enjoyed the friendship of Dr. Franklin, and maintained a correspondence with him to the day of his death; much of which is published, and shows her to be a woman of strong powers of mind.

In 1786, Mrs. Hewson removed to America, and soon after her arrival Thomas entered the Junior Class of the College of Philadelphia, afterwards the University of Pennsylvania. In 1789, he took the degree of Bachelor of Arts, and immediately afterwards began his medical studies with Dr. John Foulke. After having pursued his studies for nearly five years in Philadelphia, he returned to England in 1794; and in the month of September following, entered St. Bartholomew's Hospital as one of the two house surgeons. In November, 1795, he went to Edinburgh, where he remained till July, 1796, when private business compelled him to return to London, where he was detained till July, 1800, when he returned to America, where, after a course of medical studies, embracing eleven years, he commenced the practice of his profession in Philadelphia.

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In November, 1806, he was appointed physician to the Walnut Street Prison, and served the institution faithfully until March, 1818, when he resigned. So highly did the inspectors of the prison estimate his services that they presented to him a handsome silver vase, with an appropriate inscription.

In September, 1811, Dr. Hewson was elected one of the surgeons of the Philadelphia Alms House, an appointment which he held for many years. In 1815, he published a translation from the French of Swediaur on Syphilis. In December, 1816, he was elected Professor of Comparative Anatomy in the Department of Natural Science of the University of Pennsylvania. In January, 1817, he was appointed Physician to the Orphan Asylum, a situation which he held for twenty years; and in November, 1818, he was chosen one of the Surgeons of the Pennsylvania Hospital, in the place of Dr. Dorsey, deceased, and continued to hold the appointment until May, 1835, a period of nearly seventeen years, when he resigned. Dr. Hewson largely contributed to the formation and revision of our National Pharmacopœia, in fulfilment of various appointments made chiefly by the College of Physicians. In 1820, he was one of the Physicians to the Board of Health, to attend the Yellow Fever Hospital. In 1822, Dr. Hewson established a private Medical School in Library Street, in connection with Dr. Harris, Dr. Meigs, and Dr. Bache. In this school, he gave, for many years, annual courses of lectures on anatomy. In 1832, a Cholera Medical Board, composed of twelve physicians, was established at Philadelphia, of which he was appointed the first President.

Dr. Hewson, during the course of his long life, received scientific honours from several societies and institutions. He was elected a member of the Edinburgh Medical Society in 1796, and of the American Philosophical Society in 1801; of the Philadelphia College of Physicians the same year; of the Philadelphia Medical Society in 1804; of the Philadelphia Linnæan Society in 1813, and of the Medical Society of the District of Columbia in 1821. In 1822, the honorary degree of Doctor of Medicine was conferred on him by the Medical Department of Harvard University. He filled successively the offices of Secretary and Censor in the College of Physicians of Philadelphia, with the exception of one year, from July, 1802, to April, 1835, when he was chosen Vice-President; and in the month of July following, upon the death of Dr. James, he was elected President, which office he held to the time of his death, a period of more than twelve years. He filled the chair with great dignity—a

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chair which had been graced by a Redman, a Shippen, a Kuhn, a Parke, and a James.

He published a great many valuable medical essays and communications in several of the most celebrated medical publications of the day. He died of disease of the prostate gland, on the 17th of February, 1848, in the 75th year of his age, after an honourable career of professional exertion of nearly fifty years.

DOUGLASS HOUGHTON, M.D.

I published the following notice of this distinguished man in the *Boston Medical and Surgical Journal* of Dec. 24th, 1844:—

Science and humanity have much to deplore in the death of the lamented Dr. Douglass Houghton, State Geologist of Michigan, who was drowned near Eagle River, Lake Superior, on the evening of the 13th of October last. Dr. Houghton was one of the most learned and distinguished physicians of the West. Much of the latter part of his life was devoted to the pursuit of science, and particularly to geology and mineralogy. Some extended reports of his were laid before the State Legislature of Michigan, and have been published, which do great credit to his indefatigable researches in this interesting department of knowledge. It was, I believe, in the prosecution of his discoveries and researches in the region of the copper mines, near Copper River, on Lake Superior, that he met his untimely fate, in the midst of high health and great usefulness, and at the period of middle age. Not long before he was drowned, he was appointed Professor of Geology, Mineralogy, and Chemistry in the Michigan University at Ann Arbour. He was formerly a distinguished pupil of the late Professor Eaton, of the Scientific Institute of Troy. The following are extracts from the resolutions which were passed at a public meeting held at Detroit, in consequence of the death of Dr. Houghton. They give an exposition of the estimation in which he was held by the citizens of Detroit, and the inhabitants of Michigan; and I think they will be read by our professional brethren throughout the Union with interest.

Dr. Zina Pitcher offered the following preamble and resolutions:—

Whereas, We have learned that Dr. Douglass Houghton, Geologist of this State, was drowned near the mouth of Eagle River, on Lake Superior, on the night of the 13th instant,

Resolved, That this community have received with deep regret the news of this melancholy catastrophe, which has deprived us of one who has been, for many years, a most useful and estimable citizen.

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Resolved, That, as citizens of Detroit, we have lost in Dr. Houghton one who has been zealously and closely identified with our best interests. In public and in private, his efforts have been ceaseless to promote our welfare. When that dreadful scourge, the cholera, was abroad among us, his unremitting labours and kindness contributed much to mitigate and stay its ravages. And when called to preside over our councils as mayor of the city, he manifested the same solicitude for the public good, and by his independence and energy obtained the respect of all parties of men.

Resolved, That this State has been deprived of one of her brightest ornaments, and one who has done much to increase her reputation and her welfare. Chosen at an early period State Geologist, and Professor of Geology, Chemistry, and Mineralogy in the University of Michigan, he began and has continued his labours with untiring devotion to collect such knowledge as would best enable him to benefit the State and the cause of education. For this, he has sacrificed his time, his money, and his health, and more than once periled his life. Disregarding every hardship and sacrifice, he has persevered and accomplished enough to gain for himself and for us a distinguished reputation among the patrons and followers of knowledge. And by his skilful efforts to develop the rich resources of our soil, he has advanced us far on the way to prosperity and distinction. The work which he has done is one of his best passports to honour and respect at home and abroad.

Resolved, That, in his death, science mourns the loss of one of her noblest sons. Without guide or teacher, he devoted himself to its study in his early youth, and from that time onward has never wearied in its pursuit. And by his quiet and unobtrusive modesty, he has exalted its character as much as by his thorough and extensive acquirements. It never had a more unassuming, or a more worthy votary. The distinguished of this country and of Europe have enrolled him among their numbers, and whenever he has appeared among them, he has been listened to with attention and respect. He occupied one of those high places in which it will be hard to find a worthy successor.

Resolved, That we remember with gratitude and respect his character as a *man*. Open-handed and generous, and affable alike to all, the rich and the poor have lost in him a benefactor and a friend; and he has left behind him a noble example of persevering constancy. A self-made man, he has not for a moment relaxed in his industry, or suffered any temptation to divert him from his lofty aim. Both

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when standing almost alone and unaided, and when his perseverance and devotion had multiplied his friends, and increased his prosperity, he still remained the same steadfast and laborious student; the same honest, independent, and generous man. And few have departed so young as he, who have left in any community so many attached friends, of every age and class, or so bright and decided a character to revere and imitate.

Resolved, That we tender to the bereaved family of the deceased our earnest and heartfelt sympathy.

S. A. HOUSTON, M. D.,

Died at his residence, in the city of New York, on the 16th of September, 1849, of hemorrhage of the lungs, aged thirty-three years. Dr. Houston was well known as the editor, for some time, of the *New York Lancet*. He possessed a finished education, and no small degree of original talent.—(*New York Journ. Med.*)

HENRY LEONARD, M. D.,

Died in January, 1849, after having been engaged in his profession almost sixty years. During a life of more than fourscore years, he had ever shown himself an honest and a kind-hearted man. He was faithful to his professional responsibilities, and an honour to his vocation. He was kind and gentle to all who had intercourse with him, and highly respected and beloved by his people. He became a member of the Massachusetts Medical Society at an early period, and continued its unfaltering friend to the day of his death. He took great interest in education, and in everything that could elevate the condition of his fellow men. He had very active and generous sympathies and a delicate taste, and manifested them in his regard for the poor and distressed, in his love of animals, and in his fondness for botany and horticulture. He retained his interest for these in his old age, and thus kept his heart young, while decrepitude was creeping over his frame. After a long life of active usefulness in his profession, and in society, he died in the love and the confidence of those who knew him.—(*Jarvis' Anniversary Discourse before the Massachusetts Medical Society*, 1849.)

HENRY MAYNDER, M. D.,

Died at Annapolis, Maryland, in 1849, aged ninety-three. He was a revolutionary surgeon. At the battle of Brandywine, he extracted a ball from the leg of General Lafayette.

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JAMES MACDONALD, M. D.,

Died at Flushing, Long Island, on the 5th of May, 1849, aged forty-five years. From Dr. Swett's Eulogy upon him, I select the following particulars:—

Dr. James Macdonald was descended from the Scottish clan of Macdonald, a name which has become historical in the annals of the past century, both for the exhibition of the highest moral worth and the most distinguished public services. His father, Dr. Archibald Macdonald, emigrated to America in childhood, where he studied the profession of medicine. After practicing as a surgeon in the British army, he finally settled at White Plains, in the State of New York, where he continued the practice of his profession, with distinguished success, until his death in the year 1813.

Dr. James Macdonald, at the time of the decease of his father, was only thirteen years of age; but his education was carefully superintended by an excellent and devoted mother. It was intended that he should follow a mercantile pursuit; but his early predilection carried him, in opposition to the wishes of all his friends, into the profession of medicine.

In the year 1821, he commenced the study of his profession in his native village, but afterwards entered the office of the late Dr. Hosack of the city of New York He received the degree of Doctor of Medicine from the College of Physicians and Surgeons of New York in the year 1825.

At this time, the office of Resident Physician of the Bloomingdale Asylum was vacant. Dr. Macdonald at once applied for the situation, and, although so very young, he obtained it, although opposed by two other candidates much older in the profession than himself. His success gratified his ambition, and he now turned his attention to the study of mental diseases with great assiduity. He continued in this office till the year 1830, when he resigned, and commenced the practice of physic in the city of New York. His separation from the institution was but temporary. The next year, at the request of the governors of the hospital, he visited Europe for the purpose of examining the insane asylums there, that the benefits of their improvements might be received in the asylum at Bloomingdale. He sailed in June, 1831, and remained abroad about sixteen months, during which time he visited the various insane institutions in England, and on the Continent. On his return, he assumed the whole medical responsibility of the Bloomingdale Institution, and he was most amply qualified to fulfil them.

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In the year 1837, Dr. Macdonald having completed his engagements with the governors of the Bloomingdale Asylum, resigned his situation in that institution, much to the regret of all connected with it. The governors, in accepting his resignation, expressed to him "the gratification they felt at the great success which for many years had attended his treatment of the insane patients, and assured him that they held in just estimation the amiable and gentlemanly deportment which always characterized him during their long intercourse."

Immediately after leaving the Bloomingdale Asylum, Dr. Macdonald recommenced the general practice of his profession in New York. He afterwards became connected with a private institution for the insane at Flushing, Long Island. In this institution, he continued to the day of his death. His disease was pneumonia with pleuritis.

GEORGE McCLELLAN, M.D.,

From Dr. Samuel George Morton's Biographical Notice, I condense the following remarks:—

George McClellan was born, the 22d of December, 1796, at Woodstock in Connecticut. His family, which was highly respectable, was in part of Scotch, in part of English lineage, and afforded several enthusiastic partisans of freedom in the War of Independence. He graduated in Yale College at the age of nineteen years. He had great quickness of perception, readiness in the acquisition of knowledge, and an enthusiastic, but unmethodical devotion to his studies. He had great talents for mathematics, and the languages; in the former he showed proficiency; in the latter his attainments were above mediocrity. He was also fond of natural history, and many of his productions are published in *Silliman's American Journal of Science*. After his collegiate education, he commenced the study of medicine in the office of Dr. Dorsey, of Philadelphia. He took his medical degree in 1819, and at once commenced the practice of his profession in Philadelphia. After giving a course of private anatomical lectures, Dr. McClellan conceived the bold idea of founding a new medical school. A memorial was addressed by himself and others to the Legislature of Pennsylvania, and a charter was obtained, in the winter of 1825, for the Jefferson Medical College. Great difficulty attended the establishment of this school, yet, notwithstanding many adverse circumstances, Dr. McClellan had the satisfaction, in the year 1836, to welcome no less than three hundred and sixty pupils

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into the school he had founded. Dr. McClellan's lectureship was *surgery;* and he continued his instructions in this branch till the year 1838, when, for unknown reasons, the professorships of Jefferson College were all vacated by a decision of the Board of Trustees, and a new organization took place, from which Dr. McClellan was excluded. So true is it that times change, and we change with them. Mortified, but not discomfited, by this adverse issue of his cherished plans, Dr. McClellan immediately conceived the project of a third medical school, and, with characteristic buoyancy of spirit and determination of purpose, he went in person, accompanied by a single personal friend, to solicit a charter from the State legislature. Corporate privileges were, in consequence, granted to an institution under the title of "The Medical Department of Pennsylvania College, at Gettysburgh," and McClellan, with five associates, of whom Dr. Morton was one, commenced the initiatory course of lectures in Philadelphia in November, 1839.

At the first commencement, this school had nearly one hundred pupils, between which as a maximum and eighty as a minimum, it continued under the direction of the same faculty for four successive years. Owing to some pecuniary embarrassments, entered into in the first instance, and in which Dr. McClellan had no part, the institution began to decline, and the lectures terminated there in the spring of 1843, and soon after this the faculty resigned their professorships into the hands of the trustees. Dr. McClellan was the only member of the faculty who reluctantly abandoned this, his last-cherished enterprise.

The remaining portion of Dr. McClellan's life was passed in the active duties of his profession. His final illness was severe. His death sudden. On the morning of the 8th of May, 1847, he assisted in the performance of two surgical operations. He came home soon after noonday, complaining of indigestion, which was quickly followed by symptoms analogous to those of bilious colic. These increased every moment in severity. Medicines at length afforded some mitigation of his suffering, and for a short time gave promise of relief; but it was presently observed that, as his pain abated, exhaustion and restlessness followed. These symptoms increased towards evening, and at eleven o'clock at night, to the surprise and dismay of the family and friends, the hand of death was evidently upon him. His mind continued clear, but his articulation became hurried and indistinct. At midnight, he was pulseless, and soon after-

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wards fell asleep; and, in this state of unconscious tranquillity, he died at half past one o'clock the same night.

As a surgeon, Dr. McClellan established for himself a reputation that has become proverbial wherever the healing art is esteemed and fostered. Few men in private practice in this country have operated so frequently. His list included almost every capital operation known to surgeons, together with others that were original with himself; and these multiplied efforts of his genius were rewarded with a full share of success. Dr. McClellan was a fluent, interesting, and learned lecturer. He was never at a loss for words; yet, in spite of his amazing fluency, his ideas manifestly accumulated more rapidly than his tongue could give them utterance. He left behind him a manuscript volume upon surgery, that has since been published by his son, Dr. John H. B. McClellan, and is very highly spoken of in our journals.

JOHN McNAIRY, M. D.,

Died on the 18th of August, 1849, aged thirty-one years. He was Superintendent of the Lunatic Asylum of Tennessee.

D. S. MEREHAM, M. D.,

Died in the city of New York, on the 20th of November, of arachnitis. The editor of the *New York Journal of Medicine* says he was an erudite scholar, and for some time edited the *New York Medical Intelligencer*. To those who were most intimately acquainted with him his loss will be deeply felt.

PRESLEY H. CRAIG, M. D., of the U. S. Army,

Died at New Orleans on the 2d of August, 1847. He was one of the oldest surgeons in the United States service. He possessed, says the *New York Journal of Medicine*, to an almost unlimited degree, the love and respect of all who knew him, and there are few whose demise will be more deeply regretted.

HENRY NEIL, M. D.,

Was born at Snow Hill, Maryland, in the year 1783. His early education was acquired in the academy of his native county, where he obtained a good knowledge of the classics. He commenced the study of medicine in Philadelphia, under the instruction of Dr. Church, a celebrated obstetrical lecturer. He received the degree of Doctor of Medicine in the University of Pennsylvania, in the year

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1807, and was afterwards for many years a physician in the city dispensary. In 1811, he was elected a Fellow of the College of Physicians in Philadelphia, and, in 1818, he was chosen one of its curators, which office he held for many years. In consequence of the excellence of his character, and the clearness of his judgment, he won the confidence and esteem of his colleagues and associates, and, in 1814, they elected him vice-president of the college. He furnished several articles of great practical value to the *North American Medical and Surgical Journal.* The editor of the *New York Medical and Surgical Journal* for March, 1849, in summing up his character from the excellent memoir of him published in the *Transactions of the College of Physicians of Philadelphia* by Dr. J. M. Paul, says: "Dr. Neil's devotion to the duties of his profession was untiring. He read much, observed carefully, thought philosophically; consequently, his judgment was excellent, and upon it he early accustomed himself to rely. Those who were best acquainted with him scarcely knew which most to admire, the sweet simplicity, humility, and kindness of heart which cast a charm over his whole appearance and manner, or the lofty moral courage which ever animated him in the path of duty, raising him above all the dread of man or of man's opinions, and enabling him to go forward without shrinking through scenes the most trying and severe. He died on the 7th of October, 1845, in the 64th year of his age."

JOHN C. OTTO, M. D.

The following facts are derived from the Eulogy of Dr. Isaac Parrish, of Philadelphia, delivered before the College of Physicians, in Philadelphia, March 24th, 1845.

Doctor Otto was born third month (March) 14th, 1774, near Woodbury, New Jersey. He was son of Dr. Bodo Otto, an eminent physician, and distinguished as a public character in the stirring period of the American Revolution. His great-grandfather and father were also physicians. The latter emigrated to this country from Germany in 1752, being then forty-three years of age. He settled in Philadelphia, and, from his European education, rare at that time, was much esteemed for his literary and medical knowledge. He obtained much practice among the Germans, particularly in surgery. He attended the American army to the encampment at Valley Forge, and had charge of the hospital there during the memorable winter of 1778, for which services he declined all compensation. Young

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Otto, the son, passed through a collegiate course at Princeton, where he took his degree in the year 1792. After leaving college, he was sent to Philadelphia, and entered the office of Dr. Rush in the spring of 1793. He graduated at the University of Pennsylvania in 1796, and the same year settled as a practitioner in Philadelphia.

The prospects of Dr. Otto, at his entrance into medical life, were in every way flattering. He had been the pupil, and was now the friend, of Dr. Rush; his capacities for the profession of his choice were undoubted; his manners were mild and amiable; and his moral principles were above reproach. He soon occupied a highly respectable rank among his cotemporaries—of whom were Griffith, James, Dewees, Physick, Hewson, Chapman, Ruan, and others of equal eminence—and seemed destined to occupy the position which some of these gentlemen acquired, not only as a private practitioner, but as a public teacher of the science. But his extreme diffidence of his own abilities prevented him from attempting any public display. His talents were more solid than brilliant, and his tastes more consonant with the unobtrusive sphere of the private physician than with the excitement of public station.

In 1798, he was elected one of the physicians to the Philadelphia Dispensary; an institution which he faithfully served for a period of five years. In the year 1802, he was married to Elvira Tod—the daughter of Alexander Tod, a highly respectable merchant of Philadelphia—a lady in every way qualified to render domestic relations happy and congenial. They had nine children, seven of whom survive. In the year 1813, Dr. Rush died, and Dr. Otto was appointed to succeed him as one of the physicians of the Pennsylvania Hospital. He held this situation during a period of twenty-two years. At his resignation, in 1835, the Board of Managers presented him with a highly complimentary vote of thanks for his services. In the hospital, he was deemed an excellent clinical teacher. As a practitioner, he was an eclectic. He was attached to no particular theories of disease, but formed his opinion of the character of each case, and of the indications to be fulfilled, from the symptoms presented. He possessed considerable tact in the application of remedies. His opinions were highly esteemed, and greatly sought for, by his professional brethren.

As a writer, Dr. Otto is but little known. He, however, published several most valuable papers in the *New York Medical Repository*, in *Coxe's Medical Museum*, in the *Eclectic Repository*, in the *North American Medical and Surgical Journal*, and in the *Transactions of*

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the College of Physicians of Philadelphia. In the latter institution, he held the offices of Censor and of Vice-President. The life of this most excellent man terminated about six o'clock P. M., on the 26th of June, in the seventy-first year of his age. He died of a sort of breaking up of the system, or a wearing out of the machine, which it is beyond the power of art to invigorate or repair. During a long illness, Dr. Otto maintained an unusual serenity and composure, and looked forward to the final result with entire resignation to the Divine will. He died as he had lived, a humble and devout Christian, beloved and respected by all who knew him, and highly esteemed throughout this community.

OLIVER PARTRIDGE, M. D.

Doctor Partridge died at Stockbridge, Massachusetts, on the 24th of July, 1848. He was born at Hatfield on the 15th of April, 1751, Old Style, which would make his birth-day on the 26th of April in the present style; consequently, he lacked two days of being three months over ninety-seven years of age. His father, Col. Oliver Partridge, was a distinguished man in the age in which he lived, holding the offices of judge, high sheriff, colonel, &c., during a most critical period of our nation's history, when savage and French incursions called forth all the energy, the bravery, and the military and civil talents of our country. Dr. Partridge received as good an education as could be obtained at that time out of our colleges.—At the age of twenty, he removed from Hatfield to Stockbridge, where the celebrated Dr. Erastus Sergeant then resided, who was one of the most distinguished physicians in Western Massachusetts. Before Dr. Partridge removed to Stockbridge, Dr. Sergeant had married a sister of that gentleman, which probably induced him to take up his abode there. He began to reside in the house of Dr. Sergeant in the year 1771, and in that house he died, a bachelor, in 1848, having lived there uninterruptedly for a period of seventy-seven years. He prepared himself for the study of medicine probably with Stephen West, D. D., a relative, who was one of the most distinguished divines in that section of the country at the time. He then studied the profession of medicine with Dr. Sergeant the customary time, and commenced practice in Stockbridge. His practice was successful. He had a great fondness for books, but his love for them did not prevent him from closely scrutinizing the phenomena of disease at the bedside of the patient. He was a very close observer of nature; and in the vegetable kingdom in particular but few medicinal articles

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escaped his notice. We have evidence of the closeness of this scrutiny of the medicinal properties of cow parsnep, in his controversy with the celebrated Dr. Thacher, of Plymouth, published in the *Boston Medical and Surgical Journal*, some years ago, when they were both over eighty years of age, and in his elaborate communication upon the viola pedata, or bird's foot violet, also published in that Journal.

If there was any branch of his profession to which he was more particularly attached than to others, it was the diseases of women and children. His standing was honourable in the profession. He united himself with the Massachusetts Medical Society in 1785, and continued as an ordinary member till 1803, when he withdrew from the Society, and continued what is called a retired member, according to the regulations of that Society, to the day of his death. In the latter part of his life, many of his medical writings were published in the *Boston Medical and Surgical Journal.* As a Christian, Dr. Partridge was sincere, pious, and conscientious. He was engaged in the practice of medicine seventy-four years. Dr. Holyoke, of Salem, practiced eighty years. Both are rare examples.

For a further account of him, see my Memoir of him, published in the *Boston Med. and Surg. Journ.*, Sept. 6, 1848.

JACOB RANDOLPH, M. D.

Abridged from a notice of him by Dr. George W. Norris, delivered before the College of Physicians, Philadelphia, August 1st, 1848.

Doctor Jacob Randolph was the sixth son of Edward Fitz Randolph, and was born in Philadelphia, November 25th, 1796. Early in life, he was sent to the Friends' School on Fourth Street, and was there taught the common branches of an English classical education. At the completion of this course in 1814, he commenced the study of medicine with Dr. Woollens, of Philadelphia, and completed his pupilage with Dr. Chleaver. In 1817, at the age of twenty-one, he received the degree of Doctor of Medicine at the University of Pennsylvania. Soon after, he received the appointment of surgeon to a ship bound to China; but, owing to severe and protracted suffering from sea-sickness, he left the vessel in England, and after some months, passed principally in Scotland and France, returned home. On his return, he established himself as a practitioner in Philadelphia. In 1822, he married a daughter of the distinguished Dr. Philip Syng Physick, and soon after appears to have determined upon devoting himself to the practice of surgery. To this course he

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might have been urged by Dr. Physick, who, seeing his zeal in this department of our profession, predicted for him to his friends, should he pursue it, a brilliant success—a prediction which was amply verified in his after life, for he ultimately became one of our most distinguished surgeons.

In 1830, he received the appointment of Surgeon to the Alms House Infirmary, where he had an ample opportunity to perfect himself in operative surgery. In the same year, Dr. Randolph became associated with several other medical gentlemen, in an institution for summer teaching, called the School of Medicine, and first appeared as a lecturer on surgery. He proved a most impressive and agreeable lecturer. In 1835, on the resignation of Dr. Hewson, Dr. Randolph was elected one of the surgeons of the Pennsylvania Hospital, a post which he retained to the period of his decease; and in the last year of his life he was made Professor of Clinical Surgery in the University of Pennsylvania.

In 1840, he revisited Europe, and, being desirous of availing himself of the opportunities which Paris offered for observation and improvement, preceded his family by some months, in order the better to benefit by the opportunities for instruction afforded by that metropolis. While in Europe, he was elected Professor of Operative Surgery in the Jefferson Medical College, which appointment he declined, inasmuch as it would have necessitated his speedy return. Upon his return home, after an absence of two years, he again resumed practice as a consulting surgeon, and in this capacity enjoyed a large share of business. Soon after his arrival among us, a complimentary dinner was given to him by his professional brethren, which, coming as it did spontaneously from a very large body of those who so well knew him, and were in daily intercourse with him, speaks loudly of the hold he possessed on their affections.

Dr. Randolph was one of the earliest advocates of lithontripsy, and was one of the most successful operators in it. To the medical periodicals, he contributed but little; but, from what we have seen, we regret that his publications were not more frequent. In the *North American Medical and Surgical Journal*, he published the history of a case of femoral aneurism, where the external iliac artery was tied, being the second instance in which this operation was done in our city. The most extended paper which he published is one on the nature and treatment of morbus coxarius, which appeared originally in the *American Journal of Medical Sciences*

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for 1830. He also published in the same journal a case of amputation of the lower jaw, in a case of osteo-sarcoma, and some valuable articles on lithontripsy. To the *Medical Examiner* he contributed an account of the removal of the parotid gland, and in the same journal will be found many of his clinical lectures, delivered at the hospital.

In his professional intercourse, Dr. Randolph was straightforward and considerate, of a gay and amiable disposition, open and unobtrusive in manner, of the strictest veracity, warm in his friendship, firm in his resolution, cautious in the expression of his opinions, and not allowing those which he had deliberately formed to be easily shaken; he was endeared to all who had the happiness to know him well. In the prime of life and in the midst of a useful cause, he was taken suddenly from us on the 29th of February, 1848. During his short illness, he was collected and in the full possession of his mind. He prepared for death without fear, doubtless

"Sustained and soothed by an unfaltering trust"

in the principles of that Society in which he had been educated. He was a member of the American Medical Association.

ALEXANDER READ, M.D.,

Died at New Bedford, Massachusetts, November 2d, 1849, aged sixty-three years. He was born at Milford, Massachusetts, in Worcester county, and was highly respected as a physician. He graduated in the Literary College at Hanover, in 1808; studied medicine with the late Dr. Nathan Smith, of Hanover, and with Dr. Greene, of Worcester; and commenced the practice of medicine at New Bedford, Massachusetts, in 1811, where he continued till he died. He delivered useful lectures upon botany and chemistry to the citizens there. He received the degree of Doctor of Medicine in New Haven, in 1816, and the same year was admitted a Fellow of the Massachusetts Medical Society, and has been one of its counsellors. Dr. Read was an eminent surgeon as well as physician, and he continued to practice surgery till 1840, when he lost an eye in consequence of a disease contracted in the discharge of his professional duties. He died of hematuria. He was a practical and an eminent Christian. (*From facts collected from the Bost. Med. and Surg. Journ.*) The New Bedford Medical Association passed the following resolution upon his death:—

"*Resolved*, That in this dispensation we recognize a severe loss

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—the loss of a friend and brother, endeared to us by the most engaging qualities of mind and heart; a counsellor, most confidently trusted in by us for his intelligence, information, and uniformly honourable conduct. Our respect for him, while living, was an affectionate regard; our regret for his death a deep sorrow."

JOHN REVERE, M. D.

I am indebted to the Biographical Memoir of this distinguished man by my friend Dr. Valentine Mott for the following facts in relation to him:—

John Revere, M. D., was born in Boston, in the State of Massachusetts, on the 17th day of March, 1787, and died at New York, about the 1st of May, 1847. He was the youngest son of Col. Paul Revere, a distinguished mechanic of that city, who organized and headed this powerful and respectable interest in resistance to the aggressions of the British crown, during the thrilling and memorable epoch of our Revolutionary struggles. The family are of the famous Huguenots, and are descended from *Rivours*, now written Reveres, and of the north of France. His boyhood was passed "partly in the excellent public school of his native town, and partly under the superintendence of the Rev. Thomas Thatcher, of Dedham, a gentleman in that day much intrusted with the discipline of youth designed for the University." He then entered and received a regular classical education at that celebrated and most ancient seat of learning, Harvard University, and there graduated in the class of 1807.

He studied medicine under the care of Dr. James Jackson, Professor of the Theory and Practice of Medicine in Harvard University, and enjoyed the friendship of that eminent man during the remainder of his life. After the usual course of study, he visited Europe, and especially Edinburgh and Paris, and in 1811 graduated as Medical Doctor at the renowned Alma Mater of medical science in the Scottish capital, in which school were the celebrated Professors Gregory, Hope, Home, Monro, and Hamilton.

On his return from Europe, Dr. Revere commenced the practice of his profession in his native city of Boston, but soon found the austere winters of his residence wholly incompatible with the tendency to bronchitic inflammation, which appears with him to have been more or less constitutional. A considerable degree of expectoration of blood in the first severe attack, which took place in the year 1816, clearly admonished him to seek out in time for a milder and more propitious climate. He accordingly immediately embarked for

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the south. But to show how far from being deep seated this pulmonary affection was, we have only to remark that he had to go no farther south than a short excursion by sea to Richmond in Virginia, when his troublesome cough and other symptoms almost immediately vanished: so that, after remaining a short time in Richmond, he left for Baltimore, with a purpose of settling in that city. He began practice there, and having leisure, devoted some of it to the study of chemistry, and to experiments which might result in useful discoveries. Among them was the attempt to prevent the rusting of iron in sea water, with a view to using this comparatively cheap metal on the bottoms of ships, as a substitute for copper. Dr. Revere, thinking he had arrived at his object, went to England in 1829, and there interested Sir William Adams, formerly a distinguished oculist, in his project.

He remained abroad two or three years, during which time he had another golden opportunity to profit by the lessons of the great medical teachers, who had appeared above the horizon since the days of his early studies at Edinburgh.

While in Baltimore, Dr. Revere had translated Magendie's *Physiology*, and published some papers on professional subjects. From Baltimore he removed to Philadelphia, and there, in 1831, was appointed Professor of Medicine in the Jefferson College of that city. In this chair, he fulfilled the high expectations that had been formed of his ability, and his accession to the college contributed largely to the fame which those associated with it gave to that institution. From Jefferson College at Philadelphia, and at that time, as now, in a highly flourishing condition, he was, upon the reorganization of the Medical Faculty of the University of the city of New York, in the year 1840, invited by the council of the institution to the chair of Theory and Practice, which he had occupied with so much distinction at Philadelphia. In this office, he continued to the day of his death. Dr. Revere had the reputation, among men amply qualified to judge, of being one of the best and most learned professors of medicine in the United States. His fame is as extensive as the medical literature of our country. For some time before his death, he was engaged in an extensive work on the practice of medicine, to the extent of about fifteen hundred pages. Four hundred of these are printed. No trace of its continuance in manuscript can as yet be found, which is much to be regretted. I refer for further particulars to the excellent Memoir of him by his colleague Dr. Mott.

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EDWARD H. ROBBINS, M. D.,

A very distinguished physician of Boston, died in his native city in January, 1850, aged fifty-eight.

JOHN RUAN, M. D.

For the following facts in relation to the life of Dr. Ruan, I am indebted to a Biographical Notice of him, read, by appointment, before the College of Physicians of Philadelphia, September 2d, 1845, by Henry Bond, M. D., and published in the *Transactions* of the College of Physicians.

Dr. John Ruan was the second son of John Ruan, a respectable gentleman planter in the Island of St. Croix, in the West Indies, where he was born June 9th, 1771. His father died in 1782, and his mother being previously deceased, he and his elder brother were sent by their guardians to this country to complete their education, and were placed under the care of Mr. Isaac Barnes, of Trenton, New Jersey. He entered Princeton College as a Junior, and took his first degree in 1790, and afterwards that of Master of Arts. In the following year, he attended a course of medical lectures in Philadelphia. In 1791, he went to Edinburgh, then the most renowned school in Great Britain, if not in the world. There he remained prosecuting his medical studies until 1793, when he, in company with our late President, Dr. Thomas C. James, his fellow student, returned to the United States, and landed at Wiscasset, in Maine. It appears, by the catalogue of his Alma Mater, that he obtained the degree of M. D., but at what time, and in what institution, I cannot learn.

Soon after his return from Europe, he commenced the practice of medicine in the borough of Frankford, near Philadelphia, where he remained fifteen years; at the termination of which period, he removed to a farm he had purchased a few miles from that borough. There he remained three years, still devoted to the duties of his profession, which, in 1811, he relinquished, and retired to a plantation in Maryland, where he resided ten years. He spent the winter of 1821 in his native island, on a visit to his two brothers who were planters there. On his return, he found it necessary, on account of pecuniary losses, to practice his profession, and in the spring of 1822 he settled in Newtonville, in Bucks county, Pennsylvania; but he soon found a country practice too fatiguing for one at his time of life, being then fifty-one years old; and in the autumn of that year he removed to Philadelphia, being encouraged thereto by some of his

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old professional friends—particularly by Drs. Otto and Dewees, and his warm friend and fellow-student, Dr. James. He soon acquired business, and, in a very few years, had a larger obstetrical practice than any other physician in the city. Two or three physicians in the incorporated districts have sometimes made larger annual reports of births to the Board of Health; but, during the twenty-two years of his professional life in Philadelphia, his obstetrical practice amounted to four hundred cases more than any other practitioner in the city. He attended two thousand nine hundred and twenty-two cases; and from 1830 to 1840, from his sixtieth to his seventieth year, his cases annually varied from one hundred and sixty-one to two hundred and fourteen. To be able, at that time of life, to undergo all the watchings and fatigue necessarily connected with such a practice, shows he was blessed with a constitution of great vigour, and capable of great endurance.

In the spring of 1843, he had a severe attack of pneumonia, by which he was greatly reduced and prostrated. He recovered so far as to enjoy comfortable health, and to resume his professional labours. But his constitution had received so severe a shock that the fatigue and watching necessarily connected with his business hastened on the infirmities of age, and in the summer of 1844 he was compelled to withdraw entirely from practice; and late in the autumn of that year he removed to a small establishment he owned in Bucks county, where he died July the 2d, 1845, in the seventy-fifth year of his age, greatly respected and deeply lamented. He was an urbane, excellent, and talented physician. I cannot learn that Dr. Ruan ever wrote anything for the press; but he has left in manuscript some notes of cases which he either witnessed or attended.

In February, 1805, when he resided in Frankford, he was elected an honorary member of the Philadelphia Medical Society; and, in April, 1823, a few months after his settlement in Philadelphia, he was elected a Fellow of the College of Physicians. He was naturalized in 1790, at the earliest period after his settlement in this country which the laws of the United States admitted of; and he always evinced a warm attachment to the interests and institutions of his adopted country. Dr. Ruan was married three times, and in each instance he drew a high prize in the matrimonial lottery. In his religious views, he was a Protestant Episcopalian.

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JOSEPH P. RUSSELL, M.D.,

Was among the oldest of the army medical officers, having been in service since 1813. He died on the 19th of September, at Fort Columbus, Governor's Island, N. Y., of typhoid pneumonia, aged sixty years. Twenty-five years of this period were spent in the various ports in New York harbour. His duties, during the past summer, had been arduous in the extreme, and, added to the anxieties of such responsible stations, aided materially in bringing about the decease of an officer whose loss the service will not be able easily to supply. His devotion to his duties was without limit, and yet not more marked than the gentleness and kindness with which they were performed. He was a native of Bennington, Vermont.—*New York Journ. of Med.*

JAMES SHEFFIELD, M.D.,

Died at Earlville, N. Y., on the 23d of March, 1849. Dr. Sheffield was, for upwards of forty-five years, an extensive and successful practitioner of medicine. In 1802, he became a resident of Chenango county, at that time almost a wilderness. It was at this period he was frequently compelled to ride, professionally, a distance of thirty, and sometimes forty, miles. He was, at a later period of his professional course, one of the most successful practitioners of obstetrics which the interior of the country furnished.—*New York Journ. of Med.*, 1849.

SEAMAN D. SINKLER, M.D.,

One of the editors of the *Southern Journal of Medicine and Pharmacy*, died on the 19th day of January, 1847, in the thirty-first year of his age, of consumption. The editor of the *Southern Journal of Medicine and Pharmacy* thus speaks of him: "To those who knew him, eulogy from us would be useless. His manly virtues, mental acquirements, professional learning and zeal, caused him to be respected and loved wherever he was known. After a severe course of study in the city of Philadelphia (at whose University he received the degree of M. D. in 1837), and in Paris, Dr. Sinkler commenced the practice of his profession in Charleston, in 1840. His career here was marked by unusual success. As a surgeon, he had already many of the most important operations; as a physician, he was kind, attentive, prudent without being timid, and skilful;

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and his devotion to his profession, in every branch, was unbounded and entire."

CHARLES SMITH, M. D.,

Of New Brunswick, New Jersey, was born December 4th, 1767. His parentage was highly respectable, tracing back their descent in direct line from the Puritans of Massachusetts to the seventh generation. He was educated at Princeton, and took his first degree in the College of New Jersey in the class of 1806. He then took charge of a classical school at Trenton, and afterwards of a grammar school at New Brunswick, attached to Queen's College, where he was distinguished as a successful teacher. While thus employed, he devoted his leisure time to the study of medicine, under the instruction of the late Moses Scott. He was licensed as a physician and surgeon, by two justices of the Supreme Court, upon the certificate of Drs. John Beatty and James Stratton, after an examination held May 1st, 1792. He was afterwards, the same year, received into a partnership by his preceptor, whose daughter he married in the autumn of the same year. On the 6th of October, 1792, he was honoured with a diploma from Queen's College, conferring the degree of Bachelor of Medicine.

From that time, with a single exception, he devoted himself exclusively to the practice of his profession in New Brunswick, steadily refusing all efforts to draw him aside from his pursuit by the allurement of public life, or the emoluments of office beyond the limits of his own city. Even the exception alluded to above was professional, connected as it was with the insurrection in Western Pennsylvania in 1794. On that occasion, he accompanied Governor Howell, of New Jersey, and suite to Pittsburgh, as surgeon of the cavalry of New Jersey, which commission he retained till his death. In practice, he soon rose to eminence in his own State, and, though not extensively known beyond her limits, he enjoyed in a high degree the confidence of the public and of his professional brethren throughout the State. As a writer, Dr. Smith was little known, as his communications, which were often made to the medical journals, were always anonymous.

As a linguist, he had few equals in his native tongue, while he was familiar with the Latin and Greek classics, particularly the former, and frequently amused himself and his friends with recitations from Horace, his favourite author, having committed to memory many of his odes.

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In personal appearance, he was very attractive. Tall and majestic in form, and courteous in manners, he conciliated the favourable opinion of all, especially of strangers, whose prepossessions were always in his favour. He expired on the seventh day of May, A. D. 1848, aged more than eighty years; his wife having died about two months previously. They left no children to inherit their ample fortune, acquired by his industry.—*Dr. F. R. Smith*, in the *New Jersey Medical Reporter* for April, 1849.

JOHN STEARNS, M. D.,

Died on the 17th of March, 1848, at his residence in White Street, New York. He was a native of Wilbraham, Massachusetts. He graduated at Yale College, in 1789. Shortly after, he commenced the study of medicine in the office, I believe, of Dr. Erastus Sergeant, of Stockbridge, Massachusetts. Soon after, but I cannot tell how soon, he established himself as a practitioner in the city of Albany, N. Y. Here, by successful practice, he made himself eminent as a physician. About the year 1806, he first introduced ergot into the practice of midwifery, which, in the hands of judicious physicians, has proved one of the greatest blessings in the obstetrical art. He wrote numerous valuable articles in defence of it in the medical publications of the day.

While he resided at Albany, he held several important political offices. About the year 1811, he was elected a senator in the State of New York, and he was a member, also, in the Council of Appointment. Dr. Stearns removed from Albany to the city of New York more than twenty-five years ago. "Here," says the editor of the *New York Journal of Medicine*, "for more than twenty years he was an efficient member of the vestry of St. George's Church, in Beekman Street. He was also one of the founders of the American Tract Society; and, for more than ten years, was chairman of its finance committee. In every station of life, he was *sans peur et sans reproche*." The editor continues: "In the death of Dr. Stearns, the profession has lost one of its oldest and most respected members, and society one of its brightest ornaments. Through a long life of usefulness and devotion to the active duties of his profession, Dr. Stearns has ever maintained an unblemished character, and a high reputation for skill, learning, and talent. Dr. Stearns has filled with great credit many important places of honour; such as State Senator, President of the New York State Medical Society, and President of the New York Academy of Medicine, in which capacity

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he won new laurels for his zeal and devotion to the interests of science and the profession." I became personally acquainted with this venerable man at the hospitable board of my friend Dr. Isaac Parrish, of Philadelphia, at the time of the meeting of the American Medical Association at Philadelphia, in May, 1847, of which he was a member the year before he died, when I heard many interesting facts from him in relation to some members of my family with whom he was formerly, before their decease, on terms of intimacy and friendship. It is understood that his disease was malignant erysipelas, contracted by attendance upon a patient labouring under that complaint.

JOSEPH STONE, M.D.,

Of Hardwick, Massachusetts, died on the 27th of June, 1849, of typhus fever, in the sixtieth year of his age. He was for many years a Counsellor and Fellow of the Massachusetts Medical Society. At the time of his death, he was a member of the American Medical Association. He practiced his profession very successfully thirty-five years in his native town.

MARCUS L. TAFT, M.D.,

Died at the Quarantine Hospital, Long Island, on the 8th of February, 1850, of typhus fever, aged twenty-nine years. He was one of the assistant physicians of the Marine Hospital. To those who were most intimately acquainted with his moral and intellectual worth, and professional acquirements, it will not be difficult to understand that, in his premature death, the profession has lost one of the most promising of its younger members.—*New York Journ. of Med.* He was a member of the American Medical Association.

LUTHER TICKNOR, M.D.,

Late President of the Connecticut Medical Society, died at Salisbury, Connecticut, April 19th, 1846, in the fifty-sixth year of his age.

The birth-place of Dr. Ticknor was Jericho, Vermont, where he was born on the 9th of March, 1790. He studied his profession with Dr. Dodge, of Salisbury, and supported himself and three other members of his family by teaching school a part of the year. At the conclusion of his pupilage, he settled as a practitioner of medicine at Salisbury, where he continued to the close of his life. Dr. Charles A. Lee, of New York, late editor of the *New York Journal of Medicine and Surgery*, brother-in-law of Dr. Ticknor, has given

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an interesting history of his life in the sixth volume of that journal. He says of him that he was emphatically a self-made man. He had raised himself, by his sole unaided exertions, from an humble sphere in life, and he delighted in looking back upon the difficulties he had encountered. With his own hand he carved out his path to distinction and eminence, and he felt an honest pride in contemplating the ruggedness of the road along which he had traveled, and in lending a helping hand to those entering upon the same path. No physician in the State of Connecticut, it is believed, has performed a greater amount of gratuitous medical services, or aided more indigent young men in obtaining a medical education, than Dr. Ticknor; and in no instance, scarcely, has it been known that a student who has enjoyed the benefits of his instruction failed to make a highly successful and useful practitioner.

Dr. Ticknor was a most eminent physician. He was more. He was in every respect a *man* and a Christian. "He was truly one of nature's noblemen." He had no desire or ambition to accumulate wealth for the love of it. His whole soul was devoted to the promotion of the profession which he loved. The medical profession honoured him, too, with their confidence and esteem. For many years, he most acceptably officiated as one of the Examiners of Yale College, and at the time of his death he held the office of President of the Medical Society of the State of Connecticut. Although he died in 1846, he was a strong advocate for the establishment of a National Medical Association, and urged the adoption of it in the November number of the *New York Journal of Medicine*, in 1845.

P. S. TOWNSEND, M. D.,

Was born in the city of New York, and graduated in Columbia College. He studied the profession of medicine with the celebrated Dr. David Hosack, of New York, and graduated in medicine in the College of Physicians and Surgeons. Soon after, he settled in New York, with flattering prospects of success from distinguished family relations and connections. Hemoptysis, followed by cough and confirmed hectic, induced him to remove to the tropics. He went to the Bahamas, where he practiced his profession for several years with distinguished success. He early imbibed, from his preceptor, his views of the contagion of yellow fever, and became, from his learning and talent, its ablest supporter in this country, and wrote a work on the subject. While residing in the West Indies, he visited Havana during a fearful visitation of that fever; he plunged into

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the midst of it, to learn it in its own land. This he did by seeing it in all its different forms, and by frequent dissections. On his return to New York, he published his work on Yellow Fever, which was highly approved by his countrymen, and was much applauded by foreign physicians. Shortly after this, he petitioned the Legislature of the State of New York, and obtained from that body, by his own personal application, a charter for the establishment of the Sailor's Retreat, at Staten Island. "Being the founder of this noble Asylum, he was at once elected superintendent and chief medical officer to organize and bring it into successful operation. This he fully and happily accomplished, and thousands of sick and distressed seamen have been, and will long continue to be, the greatest recipients of its comforts. Long, very long, in the distant future, will the name of Townsend be lisped and recalled as one of the greatest benefactors to those 'whose home is on the deep.' About this time, he entered upon the disturbed and stormy sea of politics, on which he was much disappointed, as every medical man devoted to his profession ought to be. He became disgusted, and returned to the more quiet walks of professional life. Here he had leisure to review and revise his former writings. He soon amplified and enlarged his work on Yellow Fever. He then prepared for the press a most extensive work on *Intertropical Diseases*. This work alone comprises in manuscript about eleven hundred pages. Besides these, he has left a variety of manuscripts on various subjects, and, we venture to say, the largest collection of recorded cases, with remarks, of any medical man in America. It is much to be wished that these valuable writings may now be published.

"At the suggestion of his much attached friend and relation, Dr. Mott, he was induced to undertake the arduous task of making a translation of the great surgical work of M. Velpeau. In this new dress, it has been a surgical treasure to the profession of this country.

"From having resided for some time on the Continent of Europe, and being familiar with several different languages, Dr. Townsend was enabled to bring this valuable work up to the present time, and with the assistance of Dr. Mott, it is believed the additional matter has increased its value. Before the completion of this laborious work, to which he devoted all his time with the most untiring industry, his general health began to fail, and a cough which had been his companion for many years, was now aggravated, attended with emaciation and hectic; a general anasarca supervened, followed by a deposit of water in the cavities of the pleura and pericardium

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a few hours before his death. This calamitous event took place on the 26th day of March, 1849, at the age of fifty-three years. This solemn event he viewed and spoke of with great composure, and indeed he wanted it. It was delightful to witness the tranquillity with which he approached the awful change. His views of religion were those of Fox and Penn. It was indifferent to him to what church he went, for he said to me, 'There is *one church, and one chapel, wherein all must worship—the chapel in our own bosoms.* One *shrine* at which we must all kneel, and one HOLY FATHER, with whom we must all commune and from whom we must obtain absolution, and that teacher and that monitor our own conscience.' There was a bright and cheering hope in the bosom of my friend; it was a full reliance upon the mercy of God, and the rewards of a future state." (Abridged from M. S. in the *N. Y. Journ. of Med.*)

LOTAN G. WATSON, M. D.,

Died in the year 1849 in North Carolina. For two years he was Professor of the Theory and Practice of Medicine in the University of Transylvania.

Many other names and notices might be given, but our time and limits will not permit.

STEPHEN W. WILLIAMS.

DEERFIELD, MASSACHUSETTS,
April 12th, 1850.

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P.

CATALOGUE OF THE OFFICERS AND PERMANENT MEMBERS OF THE AMERICAN MEDICAL ASSOCIATION.

OFFICERS FOR 1847–'48.

PRESIDENT.

NATHANIEL CHAPMAN, M. D., *Pa.*

VICE-PRESIDENTS.

JONATHAN KNIGHT, M. D., *Conn.*
ALEXANDER H. STEVENS, M. D., *N. Y.*
JAMES MOULTRIE, M. D., *S. C.*
A. H. BUCHANAN, M. D., *Tenn.*

SECRETARIES.

ALFRED STILLÉ, M. D., *Pa.*
J. R. W. DUNBAR, M. D., *Md.*

TREASURER.

ISAAC HAYS, M. D., *Pa.*

OFFICERS FOR 1848–'49.

PRESIDENT.

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VICE-PRESIDENTS.

JOHN C. WARREN, M. D., *Mass.*
SAMUEL JACKSON, M. D., *Pa.*
PAUL F. EVE, M. D., *Ga.*
W. M. AWL, M. D., *O.*

SECRETARIES.

ALFRED STILLÉ, M. D., *Pa.*
H. I. BOWDITCH, M. D., *Mass.*

TREASURER.

ISAAC HAYS, M. D., *Pa.*

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OFFICERS FOR 1849–'50.

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VICE-PRESIDENTS.

JOHN P. HARRISON, M. D., *O.*
HUGH H. MAGUIRE, M. D., *Va.*
AUSTIN FLINT, M. D., *N. Y.*
R. S. STEUART, M. D., *Md.*

SECRETARIES.

ALFRED STILLÉ, M. D., *Pa.*
H. I. BOWDITCH, M. D., *Mass.*

TREASURER.

ISAAC HAYS, M. D., *Pa.*

OFFICERS FOR 1850–'51.

PRESIDENT.

REUBEN D. MUSSEY, M. D., *O.*

VICE-PRESIDENTS.

J. B. JOHNSON, M. D., *Missouri.*
A. LOPEZ, M. D., *Ala.*
DANIEL BRAINARD, M. D., *Ill.*
GEORGE W. NORRIS, M. D., *Pa.*

SECRETARIES.

ALFRED STILLÉ, M. D., *Pa.*
H. W. DE SAUSSURE, M. D., *S. C.*

TREASURER.

ISAAC HAYS, M. D., *Pa.*

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PERMANENT MEMBERS.*

MAINE.

Bartlett, Ezra	*South Berwick.*
Lincoln, Isaac	*Brunswick.*
McRuer, D.	*Bangor.*

NEW HAMPSHIRE.

Abbot, James B.	*Sandbornton.*
Bartlett, Josiah	*Stratham.*
Batchelder, Daniel H.	*Londonderry.*
Batcheller, James	*Marlborough.*
Brown, Thomas	*Manchester.*
Buck, W. D.	*do.*
Carr, Alonzo F.	*Goffstown.*
Carr, John	*Sandbornton.*
Carter, Ezra	*Concord.*
Crosby, Dixi	*Hanover.*

* By a Resolution of the Association, adopted at the annual meeting in Baltimore, the Committee on Publication are "desired to append to the Proceedings of the Association each year a catalogue of its officers and permanent members."

In preparing the catalogue, in accordance with the above resolution, the committee have been guided,

1st. By the article of the Constitution which declares that "The permanent members shall consist of all those *who have served in the capacity of delegates*, and of such other members as may receive the appointment by unanimous vote." Further, "Every member elect, prior to the permanent organization of the annual meeting, or before voting on any question after the meeting has been organized, must sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment."

2d. By the Resolution adopted by the Association, at its meeting in Boston, "That any delegate who is in arrears for an annual assessment shall not be considered as a permanent member."

To have served as a delegate, or received the appointment by unanimous vote, signed the constitution, and paid the annual assessment, are thus essential to permanent membership. The neglect of some of the delegates to comply with *all* these conditions will explain the omission of their names from the catalogue. The difficulty of deciphering the signatures of the members, in many instances, must plead in extenuation of such errors of orthography as may be detected.

The names, and also the addresses, with a few exceptions, are given exactly as registered, the committee not having the means of designating all the changes of residence, or of indicating all those whom the Association has lost by death. The latter, so far as known, are marked thus †. For the correction of future catalogues, it is requested that the secretaries may be informed of all errors and omissions in the present one.

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Crosby, Josiah	*Manchester.*
Crosby, T. R.	*do.*
Cummings, Silas	*Fitzwilliam.*
Danforth, James	*New Boston.*
Dickey, Abraham O.	*Lyme.*
Eastman, Josiah C.	*Hampstead.*
Eaton, Harrison	*Merrimack.*
Fernald, John S.	*Barrington.*
Fitch, Francis P.	*Amherst.*
Gage, Charles P.	*Concord.*
Graves, Josiah G.	*Nashville.*
Hamilton, Cyrus B.	*Lyme.*
Haynes, Timothy	*Concord.*
Hill, Levi G.	*Dover.*
Hoyt, Enos	*Framingham.*
Kelley, S. B.	*Franklin.*
Marshal, Thomas H.	*Mason Village.*
Martin, Noah	*Dover.*
Peaslee, Edmund R.	*Hanover.*
Prescott, William	*Concord.*
Sanborn, Nathan	*Hannicker.*
Sargent, J. F.	*Concord.*
Savory, Charles A.	*Hopkinton.*
Smalley, Adoniram	*Lyons.*
Smith, Albert	*Peterborough.*
Smith, Joseph H.	*Dover.*
Spaulding, Edward	*Nashua.*
†Twitchell, Amos	*Keene.*
Twitchell, George B.	*do.*
Webster, E. K.	*Boscawen.*
Woodbury, Peter P.	*Bedford.*

VERMONT.

Babcock, M. N.	*Fairfield.*
Bancroft, J. P.	*St. Johnsburgh.*
Bass, Zaccheus	*Middleburgh.*
Burnham, Z. P.	*Montpelier.*
Carpenter, W.	*East Randolph.*
Carr, E. S.	*Castleton.*
Chandler, Charles B.	*Tunbridge.*
Cushman, E.	*Orwell.*

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Dana, A. G.	*Brandon.*
Drew, O. W.	*Waterbury.*
†Hall, Charles	*Burlington.*
Hatch, Horace	*do.*
Higginson, Francis J.	*Brattleboro'.*
Jewett, Calvin	*St. Johnsburgh.*
Morse, James R.	*Chelsea.*
Newell, Selim	*Lyndon.*
Niles, H. H.	*Thetford.*
Perkins, Joseph	*Castleton.*
Phelps, Edward E.	*Windsor.*
Pitkin, A. S.	*Burlington.*
Ranney, W. R.	*Townshend.*
Rockwell, W. H.	*Brattleboro'.*
Smith, Orrin	*Berlin.*
Spalding, James	*Montpelier.*
Stiles, J. N.	*Strafford.*
Story, Dyer	*West Windsor.*
Washburn, Cyrus	*Vernon.*
Woodward, Ashbel	*Franklin.*
Worcester, E. C.	*Thetford.*

MASSACHUSETTS.

Abbott, Samuel L.	*Boston.*
Adams, Horatio	*Waltham.*
Adams, Z. Boylston	*Boston.*
Agassiz, Louis	*Cambridge.*
Ainsworth, F. S.	*Boston.*
Alden, Ebenezer	*Randolph.*
Allen, Nathan	*Lowell.*
Bacon, jr., John	*Boston.*
Bancroft, Amos B.	*Groton.*
Bartlett, George	*Boston.*
Bartlett, Josiah	*Concord.*
Bartlett, Lyman	*New Bedford.*
†Batcheller, Stephen	*Royalton.*
Bell, Luther V.	*Somerville.*
Bemis, David	*Chicopee.*
Bemis, Jonathan W.	*Charlestown.*
Bethune, George A.	*Boston.*
Bigelow, Henry J.	*do.*

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Bigelow, Jacob	*Boston.*
Blake, E. W.	*do.*
Bowditch, Henry I.	*do.*
Bridgman, William	*Springfield.*
Brown, Buckminster	*Boston.*
Brown, Jonathan	*Tewkesbury.*
Buck, Ephraim	*Boston.*
Buckingham, Charles E.	*do.*
Cabot, jr., Samuel	*do.*
Channing, Walter	*do.*
Chase, Charles	*Chelsea.*
Childs, H. H.	*Pittsfield.*
Clarke, Edward H.	*Boston.*
Clark, Henry G.	*do.*
Coale, William E.	*do.*
Cogswell, George	*Bradford.*
Comstock, W. W.	*Wrentham.*
Cornish, Aaron	*Falmouth.*
Crane, Phineas M.	*East Boston.*
Curtis, Josiah	*Lowell.*
Cutter, Benjamin	*Woburn.*
Cutter, Nehemiah	*Pepperell.*
Dale, William J.	*Boston.*
Dalton, John C.	*Lowell.*
Dearborne, A. D.	*Newton.*
Delaney, M. G. (U. S. N.)	*Boston.*
Dickey, Hanover	*Lowell.*
Dix, John H.	*Boston.*
Fearing, Elisha P.	*Nantucket.*
Flint, Edward	*Leicester.*
Flint, John	*Boston.*
Gordon, Charles	*Boston.*
Gordon, Timothy	*Plymouth.*
Gould, Augustus A.	*Boston.*
Graves, John W.	*Lowell.*
Green, John	*Worcester.*
Guiteau, Coridon	*Lee.*
†Hale, Enoch	*Boston.*
Harpur, John	*Sandwich.*
Haskell, Benjamin	*Rockport.*

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Hayden, John C.	*Boston.*
Hayward, George	*do.*
Hayward, jr., George	*do.*
Hitchcock, Alfred	*Ashby.*
Holmes, Oliver W.	*Boston.*
Homans, John	*do.*
Hooper, Foster	*Fall River.*
Hooper, R. W.	*Boston.*
Hosmer, Hiram	*Watertown.*
Howe, Zadok	*Billerica.*
Huntingdon, Elisha	*Lowell.*
Inches, H. B.	*Boston.*
Jackson, James	*do.*
Jackson, J. B. S.	*do.*
Jarvis, Edward	*Dorchester.*
Jeffries, John	*Boston.*
Jennings, Selden	*Richmond.*
Kimball, Gilman	*Lowell.*
Lambert, Alfred	*Springfield.*
Leonard, Jonathan	*Sandwich.*
Lyman, George H.	*Boston.*
Mack, William	*Salem.*
Mackie, Andrew	*New Bedford.*
Metcalf, John George	*Mendon.*
Morland, William W.	*Boston.*
Morrill, Samuel	*do.*
Mowe, Daniel	*Lowell.*
Odin, jr., John	*Boston.*
†Parkman, George	*do.*
Parkman, Samuel	*do.*
Parks, jr., Luther	*do.*
Peck, William D.	*Sterling.*
Peirson, A. L.	*Salem.*
Peirson, E. B.	*do.*
Perkins, Henry C.	*Newburyport.*
Perry, M. S.	*Boston.*
Pierce, John	*Edgartown.*
Pillsbury, John D.	*Lowell.*
Pond, Benjamin	*Westborough.*
Poole, Alexander	*Dennis.*
Reynolds, Edward	*Boston.*

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Reynolds, Joseph	*Gloucester.*
Robbins, James W.	*Uxbridge.*
Russel, Le Baron	*Boston.*
Shattuck, jr., George C.	*do.*
Shurtleff, Nathaniel B.	*do.*
Smith, J. V. C.	*do.*
Snow, A. B.	*do.*
Spaulding, Miles	*Dunstable.*
Spooner, John P.	*Dorchester.*
Spooner, Paul	*New Bedford.*
Stedman, Charles H.	*Boston.*
Stevens, William F.	*Stancham.*
Stimson, Jeremy	*Dedham.*
Stone, James W.	*Boston.*
Stone, Joseph	*Hardwick.*
Storer, D. Humphreys	*Boston.*
Thayer, W. Henry	*do.*
Townsend, S. D.	*do.*
Wales, Bradford L.	*Randolph.*
Ware, John	*Boston.*
Ware, Jonathan	*Milton.*
Warren, John C.	*Boston.*
Warren, J. Mason	*do.*
Warren, jr., J. W.	*do.*
Wellington, T.	*West Cambridge.*
Whitney, Simon	*Framingham.*
Wilder, Charles W.	*Leominster.*
Williams, Stephen W.	*Deerfield.*

RHODE ISLAND.

Arnold, S. Augustus	*Smithfield.*
Ballou, A. W.	*do.*
Capron, George	*Providence.*
Clapp, Sylvanus	*Pawtucket.*
Clifford, Lewis W.	*Providence.*
Collins, George L.	*do.*
Dunn, Theophilus C.	*Newport.*
Ely, James W. C.	*Providence.*
Fowler, Ezekiel	*Woonsocket Falls.*
King, David	*Newport.*
Mauran, Joseph	*Providence.*

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Miller, Lewis L.	*Providence.*
Parsons, Charles W.	*do.*
Parsons, Usher	*do.*
Pratt, H. P.	*do.*

CONNECTICUT.

Barker, B. Fordyce	*Norwich.*
Beach, Samuel	*Bridgeport.*
Beardsley, Sheldon	*North Branford.*
Beresford, S. B.	*Hartford.*
Bishop, E. H.	*New Haven.*
Bowen, Samuel	*Thompson.*
Bradford, Milton	*Woodstock.*
Brigham, Norman	*Mansfield.*
Bronson, Henry	*New Haven.*
Campbell, Harvey	*Voluntown.*
Canfield, Joel	*Guilford.*
Carrington, E. W.	*Farmington.*
Casey, W. B.	*Middletown.*
Comings, B. N.	*Rockville.*
Converse, Shubael	*Norwich.*
Downing, Eleazer B.	*Preston.*
Fowler, R. M.	*Litchfield.*
Hailé, A. B.	*Norwich.*
Hall, Eli	*East Hartford.*
Hammond, J.	*Killingly.*
Hatch, Johnson C.	*Kent.*
Hooker, Charles	*New Haven.*
Hooker, Worthington	*Norwich.*
Hubbard, S. G.	*New Haven.*
Ives, Eli	*do.*
Ives, Nathan B.	*do.*
Jarvis, George O.	*Portland.*
Jewett, P. A.	*New Haven.*
Knight, Jonathan	*do.*
Lyman, Norman	*Warren.*
Middlebrook, Elijah	*Trumbull.*
Peters, Manly	*Woodville.*
Pierson, William S.	*Windsor.*
Platt, Gideon L.	*Waterbury.*
Rogers, Benjamin	*Hartford.*

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St. John, G. H.	*New Milford.*
Sumner, George	*Hartford.*
Taylor, Jr., Nathaniel W.	*New Haven.*
Warner, Richard	*Middletown.*
Webb, Reynold	*Madison.*
Welch, Archibald	*Wethersfield.*
Welch, Benjamin	*Salisbury.*
Witter, William	*Windham.*
Wright, Albert A.	*Canaan.*

NEW YORK.

Adams, John G.	*New York.*
Anderson, James	*do.*
Atwater, D. F.	*Brooklyn.*
Ayres, Daniel	*do.*
Ayres, Daniel	*Amsterdam.*
Babcock, Charles	*New Hartford, Oneida Co.*
Baker, Jr., A.	*Norwich.*
Batchelder, J. P.	*New York.*
Baxter, Hiram	*Stillwater, Saratoga Co.*
Beadle, E. L.	*New York.*
Bissell, H. P.	*Utica.*
Blakeman, William N.	*New York.*
Blatchford, Thomas W.	*Troy.*
Borrowe, J. H.	*New York.*
Bradford, George W.	*Homer, Cortland Co.*
Brinsmade, Thomas C.	*Troy.*
Buck, Jr., Gurdon	*New York.*
Buel, William P.	*do.*
Bulkley, Henry D.	*do.*
Burton, C. V. W.	*Lansingburg.*
Burwell, Bryant	*Buffalo.*
Calkins, Alonzo	*New York.*
Carr, Edson	*Canandaigua.*
Cary, Walter	*Buffalo.*
Clark, Alonzo	*New York.*
Clements, James W. G.	*do.*
Cock, Thomas	*do.*
Cock, Thomas F.	*do.*
Collins, Clarkson T.	*do.*
Congar, Horace M.	*Buffalo.*

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Cook, Simeon A.	*Ruskerk's Bridge.*
Corliss, Hiram	*Greenwich, Washington Co.*
Coventry, C. B.	*Utica.*
Dering, Nicoll H.	*Utica.*
Downs, Henry S.	*New York.*
Draper, John W.	*do.*
Dubois, Abram	*do.*
Earle, Pliny	*do.*
Flint, Austin	*Buffalo.*
Ford, Corydon L.	*do.*
Foster, Joel	*New York.*
Foster, S. Conant	*do.*
Francis, John W.	*do.*
Gardner, Augustus K.	*do.*
Gilman, Chandler R.	*do.*
Goodsell, Thomas	*Utica.*
Gray, Henry G.	*North White Creek.*
Greene, Isaac	*New York.*
Green, Horace	*do.*
Griscom, John H.	*do.*
Hadley, George	*Buffalo.*
Halstead, T. M.	*New York.*
Hamilton, Frank H.	*Buffalo.*
Hard, P. H.	*Oswego.*
Hart, John	*New York.*
Hart, Samuel	*Oswego.*
Harvey, Charles W.	*Buffalo.*
Hawley, Joel E.	*Ithaca.*
Hubbard, Samuel T.	*New York.*
Hyde, Frederick	*Cortlandville.*
Hyde, Lucius	*Brooklyn.*
Jerome, James H.	*Trumansburg.*
Jewett, Harvey	*Allen's Hill, Ontario Co.*
Kissam, R. S.	*New York.*
Lee, Charles A.	*do.*
Linsly, Jared	*do.*
Mac Farlan, Ebenezer	*do.*
Manley, James R.	*do.*
March, Alden	*Albany.*
Markoe, T. M.	*New York.*
McCall, John	*Utica.*

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McNaughton, James	*Albany.*
Metcalfe, John T.	*New York.*
Mitchell, Henry	*Norwich.*
Mixer, S. F.	*Buffalo.*
Morris, R. L.	*do.*
Moses, Israel (U.S.A.)	*do.*
Mott, Valentine	*New York.*
Ogden, Benjamin	*do.*
Parker, Willard	*do.*
Parmly, Eleazer	*do.*
Pattison, Granville S.	*do.*
Phelps, James L.	*New York.*
Phillips, S. B.	*do.*
Pierce, J. B.	*Lyons.*
Pond, James O.	*New York.*
Post, Alfred C.	*do.*
Punnett, John	*do.*
Reese, D. Meredith	*do.*
Reynolds, Tabor B.	*Wilton, Saratoga Co.*
Rodgers, J. Kearney	*New York.*
Russ, J. D.	*do.*
Sayre, Lewis A.	*do.*
Shipman, Azariah B.	*Syracuse.*
Skilton, Avery J.	*Troy.*
Smith, Albert	*New York.*
Smith, Charles D.	*do.*
Smith, Joseph M.	*do.*
Snow, Simeon	*Root.*
†Stearns, John	*New York.*
Stephenson, Mark	*do.*
Stevens, Alexander H.	*do.*
Stewart, F. Campbell	*do.*
Stout, Arthur B.	*do.*
Swett, John A.	*do.*
Synder, Morgan	*Fort Plain.*
Taft, Marcus L.	*New York.*
Tefft, Lake J.	*Onondaga.*
Thomas, Daniel	*Utica.*
Thompson, Jr., A. G.	*New York.*
Van Buren, W. H.	*do.*
Van Kleek, John R.	*do.*

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Van Rensselaer, Alexander	*New York.*
Warren, James	*do.*
Watson, John	*do.*
Watts, Jr., Robert	*do.*
Weeks, Cyrus	*do.*
White, Devillo	*Sherburne, Chenango Co.*
White, James P.	*Buffalo.*
Willard, Augustus	*Greene.*
Wing, Joel A.	*Albany.*
Wood, Isaac	*New York.*
Wood, James R.	*do.*
Worster, Joseph	*do.*
Wotkyns, Alfred	*Troy.*

NEW JERSEY.

Canfield, J. W.	*Morristown.*
†Cole, N. W.	*Burlington.*
Cooper, Richard M.	*Camden.*
Elmer, William	*Bridgeton.*
Fithian, Joseph	*Woodbury.*
Garrison, Charles	*Swedesboro'.*
Garrison, J. F.	*do.*
Gibbon, Quinton	*Salem.*
Haines, Job	*Burlington.*
Hendry, Charles D.	*Camden Co.*
Hunt, T. Edgar	*Clarksville.*
Marsh, Elias J.	*Paterson.*
Munn, J. B.	*Chatham, Morris Co.*
Nichols, Whitfield	*Newark.*
Parrish, Joseph	*Burlington.*
Rogers, Alexander W.	*Paterson.*
Pennington, Samuel H.	*Newark.*
Pierson, W.	*Orange.*
Read, Zachariah	*Mount Holly.*
Schenck, F. S.	*Camden.*
Smith, Lyndon A.	*Newark.*
Taylor, Othniel H.	*Camden.*

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Bond, Henry	*do.*
Breitenbach, J.	*Myerstown.*
Bridges, Robert	*Philadelphia.*
Brown, H. J.	*do.*
Bryan, James	*do.*
Bryan, Joseph R.	*do.*
Burden, Jesse R.	*do.*
Carpenter, Henry	*do.*
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Carson, Joseph	*Philadelphia.*
Chapman, Nathaniel	*do.*
Clymer, Meredith	*do.*
Coates, B. Hornor	*do.*
Condie, D. Francis	*do.*
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Gibson, William	*do.*
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Mitchell, Thomas D.	*do.*
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Morton, Samuel George	*do.*
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Muhlenberg, Henry E.	*do.*
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Heterick, A. B.	*Georgetown.*
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Hunt, Samuel P.	*Morrow, Warren Co.*
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Judkins, J. P.	*do.*
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Lawson, L. M.	*Cincinnati.*
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Strader, D. P.	*Cincinnati.*
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Taylor, James	*do.*
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